

# Small Signal Transistor and JFET Selection Guide

August 2002

Small Signal Transistor and JFET Selection Guide

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## August 2002

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# General Purpose Transistors

Products		V <sub>CEO</sub> (V)	V <sub>CB0</sub> (V)	V <sub>EB0</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>SOT-623F</b>															
FJZ945	FJZ733	50	60	5	0.15	40	700	6	1	0.3	100	10	-	50	B/E/C
<b>SOT-323</b>															
	FJX1182	30	35	5	0.5	70	240	1	100	0.25	100	10	-	-	B/E/C
FJX3904		40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	B/E/C
	FJX3906	40	40	5	0.2	100	300	1	10	0.4	50	5	0.95	250	B/E/C
FJX2222A		40	75	6	0.6	100	300	10	150	1	500	50	2	300	B/E/C
FJX945	FJX733	50	60	5	0.15	40	700	6	1	0.3	100	10	-	50	B/E/C
	FJX2907A	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	200	B/E/C
<b>SOT-23</b>															
BSV52		12	20	5	0.2	40	120	1	10	0.4	50	5	1.2	400	B/E/C
	MMBT3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5	1.5	500	B/E/C
MMBT2369A		15	40	4.5	0.2	40	120	1	10	0.2	10	1	0.85	-	B/E/C
MMBT2369		15	40	4.5	0.2	40	120	1	10	0.25	10	1	0.85	-	B/E/C
	MMBT5771	15	15	4.5	0.2	50	120	0.3	10	0.6	50	5	1.5	-	B/E/C
MMBT3646		15	40	5	0.3	30	120	0.4	30	0.5	300	30	1.7	-	B/E/C
KST5089		25	30	4.5	0.05	400	1200	5	0.1	0.5	10	1	0.8	50	B/E/C
MMBT5089		25	30	4.5	0.1	400	1200	5	0.1	0.5	10	1	-	50	B/E/C
KST4124	KST4126	25	30	5	0.2	120	360	1	2	0.3	50	5	0.95	300	B/E/C
MMBT4124		25	30	5	0.2	120	360	1	2	0.3	50	5	0.95	300	B/E/C
	MMBT4126	25	25	4	0.2	120	360	1	2	0.4	50	5	0.95	250	B/E/C
	MMBT3702	25	40	5	0.8	60	300	5	50	0.25	50	5	-	100	B/E/C
KSC3265	KSA1298	25	30	5	0.8	100	320	1	100	0.4	500	20	-	-	B/E/C
BCX20		25	30	5	0.8	100	600	1	100	0.62	500	50	-	100	B/E/C
BC818	BC808	25	30	5	0.8	100	630	1	100	0.7	500	50	-	-	B/E/C
MMBT6515		25	40	4	-	250	500	10	2	0.5	50	5	-	-	B/E/C
KST5088		30	35	4.5	0.05	300	900	5	0.1	0.5	10	1	0.8	50	B/E/C
MMBT5088		30	35	4.5	0.1	300	900	5	0.1	0.5	10	1	-	50	B/E/C
BC848		30	30	5	0.1	110	800	5	2	0.6	100	5	-	-	B/E/C
BC849		30	30	5	0.1	110	800	5	2	0.6	100	5	-	-	B/E/C
	BC858	30	30	5	0.1	110	800	5	2	0.65	100	5	-	-	B/E/C
	BC859	30	30	5	0.1	110	800	5	2	0.65	100	5	-	-	B/E/C
KST4123		30	40	5	0.2	50	150	1	2	0.3	50	5	0.95	250	B/E/C
	KST4125	30	30	4	0.2	50	150	1	2	0.4	50	5	0.95	200	B/E/C
KSC2859		30	35	5	0.5	70	240	1	100	0.25	100	10	-	-	B/E/C
	KSA1182	30	30	5	0.5	70	240	1	100	0.25	100	10	-	-	B/E/C
BSR13		30	60	5	0.5	100	300	10	150	1.6	500	50	2.6	250	B/E/C
MMBT2222		30	60	5	1	100	300	10	150	0.4	150	15	1.3	250	B/E/C
BCW60A	BCW61A	32	32	5	0.1	120	220	5	2	0.55	50	1.25	1.05	125	B/E/C
BCW60B		32	32	5	0.1	180	310	5	2	0.55	50	1.25	1.05	125	B/E/C
	BCW61B	32	32	5	0.1	140	310	5	2	0.55	50	1.25	1.05	125	B/E/C
BCW60C	BCW61C	32	32	5	0.1	250	460	5	2	0.55	50	1.25	1.05	125	B/E/C
BCW60D	BCW61D	32	32	5	0.1	380	630	5	2	0.55	50	1.25	1.05	125	B/E/C
BCW31		32	32	5	0.5	110	220	5	2	0.25	10	0.5	-	200	B/E/C
BCW32		32	32	5	0.5	200	450	5	2	0.25	10	0.5	-	200	B/E/C
BCW33		32	32	5	0.5	420	800	5	2	0.25	10	0.5	-	200	B/E/C
	BCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5	-	-	B/E/C
BCW65C		32	60	5	1	250	630	1	100	0.7	500	50	2.0	100	B/E/C
BSR17A	BSR18A	40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	B/E/C
KST3904		40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	B/E/C
	KST3906	40	40	6	0.2	100	300	1	10	0.3	50	5	0.95	250	B/E/C
MMBT3904		40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	B/E/C
	MMBT3906	40	40	5	0.2	100	300	1	10	0.4	50	5	0.95	250	B/E/C
	BSR18B	40	40	5	0.5	110	220	1	10	0.4	50	5	0.95	250	B/E/C
KST4401		40	60	6	0.6	100	300	1	150	0.75	500	50	1.2	250	B/E/C
	KST4403	40	40	5	0.6	100	300	2	150	0.75	500	50	1.3	200	B/E/C
MMBT4400		40	60	6	0.6	50	150	1	150	0.75	500	50	1.2	-	B/E/C
MMBT4401		40	60	6	0.6	100	300	1	150	0.75	500	50	1.2	250	B/E/C
	MMBT4403	40	40	5	0.6	100	300	2	150	0.75	500	50	1.3	200	B/E/C
KST2222A		40	75	6	0.6	100	300	10	150	1	500	50	2	300	B/E/C
BSR14		40	75	6	0.8	100	300	10	150	1	500	50	2	300	B/E/C
	BSR15	40	60	5	0.8	100	300	10	150	1.6	500	50	2.6	200	B/E/C
	MMBT2907	40	60	5	0.8	100	300	10	150	1.6	500	50	2.6	-	B/E/C
BSS79C		40	75	6	1	100	300	10	150	0.3	150	15	-	250	B/E/C
MMBT2222A		40	75	6	1	100	300	10	150	1	500	50	2	300	B/E/C
MMBT5962		45	45	8	0.1	600	1400	5	10	0.2	10	0.5	-	-	B/E/C
	BCW69	45	50	5	0.1	120	260	5	2	0.3	10	1	-	-	B/E/C

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CB0</sub> (V)	V <sub>EB0</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>SOT-23 (continued)</b>															
BC847		45	50	6	0.1	110	800	5	2	0.6	100	5	-	-	B/E/C
BC850		45	50	5	0.1	110	800	5	2	0.6	100	5	-	-	B/E/C
	BC857	45	50	5	0.1	110	800	5	2	0.65	100	5	-	-	B/E/C
	BC860	45	50	5	0.1	110	800	5	2	0.65	100	5	-	-	B/E/C
BCX70G	BCX71G	45	45	5	0.2	120	220	5	2	0.55	50	1.25	1.05	125	B/E/C
BCX70H		45	45	5	0.2	180	310	5	2	0.55	50	1.25	1.05	125	B/E/C
BCX70J	BCX71J	45	45	5	0.2	250	460	5	2	0.55	50	1.25	1.05	125	B/E/C
BCX70K	BCX71K	45	45	5	0.2	380	630	5	2	0.55	50	1.25	1.05	125	B/E/C
BCW71		45	50	5	0.5	110	220	5	2	0.25	10	0.5	-	-	B/E/C
MMBT100		45	75	6	0.5	100	450	1	10	0.4	200	20	1	250	B/E/C
	MMBT200	45	60	6	0.5	100	450	1	10	0.4	200	20	1	250	B/E/C
	MMBT100A	45	75	6	0.5	300	600	1	10	0.4	200	20	1	250	B/E/C
	MMBT200A	45	60	6	0.5	300	600	1	10	0.4	200	20	1	250	B/E/C
BCX19	BCX17	45	50	5	0.5	100	600	1	100	0.62	500	50	-	-	B/E/C
BC817□	BC807□	45□	50□	5□	0.8□	100□	630□	1□	100□	0.7□	500□	50□	-□	-□	B/E/C
	BCW68G	45	60	5	0.8	160	400	1	100	1.5	300	30	-	100	B/E/C
BCW66G		45	75	5	1	160	400	1	100	0.7	500	50	2	100	B/E/C
	KST5086	50	50	3	0.05	150	500	5	0.1	0.3	10	1	0.85	40	B/E/C
	KST5087	50	50	3	0.05	250	800	5	0.1	0.3	10	1	0.85	40	B/E/C
KSC1623	KSA812	50	60	5	0.1	90	600	6	1	0.3	100	10	1	-	B/E/C
	MMBT5087	50	50	5	0.1	250	800	5	0.1	0.3	10	1	-	40	B/E/C
	MMBT5210	50	50	4.5	0.1	200	600	5	0.1	0.7	10	1	-	30	B/E/C
	MMBT3416	50	50	5	0.5	75	225	4.5	2	0.3	50	1.3	-	-	B/E/C
	MMBT6428	50	60	-	0.5	250	650	5	0.1	0.6	100	5	-	100	B/E/C
	KST2484	60	60	6	0.05	-	800	5	10	0.35	1	0.1	-	-	B/E/C
	MMBT2484	60	60	5	0.1	100	500	5	0.01	0.35	1	0.1	-	-	B/E/C
	BCW89	60	80	5	0.2	120	260	5	2	0.3	10	1	-	-	B/E/C
KST05		60	60	4	0.5	50	-	1	100	0.25	100	10	-	100	B/E/C
	KST55	60	60	4	0.5	50	-	1	100	0.25	100	10	-	50	B/E/C
	MMBTA55	60	60	4	0.5	100	-	1	10	0.25	100	10	-	50	B/E/C
BCV71		60	80	5	0.5	110	220	5	2	0.25	10	1	-	-	B/E/C
BCV72		60	80	5	0.5	200	450	5	2	0.25	10	1	-	-	B/E/C
	MMBTA05	60	60	4	0.5	100	-	1	100	0.25	100	10	-	100	B/E/C
	BSR16	60	60	5	0.5	100	300	10	150	1.6	150	15	2.6	200	B/E/C
	KST2907A	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	200	B/E/C
	MMBT4354	60	60	5	0.8	50	500	10	10	0.5	500	50	1.1	-	B/E/C
	MMBT4355	60	60	5	0.8	100	400	10	10	1	1000	100	1.2	-	B/E/C
	MMBT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50	2.6	200	B/E/C
BC846		65	80	6	0.1	110	800	5	2	0.6	100	5	-	-	B/E/C
	BC856	65	80	6	0.1	110	800	5	2	0.65	100	5	-	-	B/E/C
BSS64		80	120	5	0.2	20	-	1	10	0.2	50	15	-	60	B/E/C
KST06		80	80	4	0.5	50	-	1	100	0.25	100	10	-	100	B/E/C
	KST56	80	80	4	0.5	50	-	1	100	0.25	100	10	-	50	B/E/C
MMBTA06		80	80	4	0.5	100	-	1	100	0.25	100	10	-	100	B/E/C
	MMBTA56	80	80	4	0.5	100	-	1	100	0.25	100	10	-	50	B/E/C
	MMBT4356	80	80	5	0.8	50	250	10	10	0.5	500	50	-	-	B/E/C
	BSS63	100	110	6	0.2	30	-	1	25	0.25	25	2.5	0.9	50	B/E/C
FJV1845		120	120	5	0.05	200	1200	6	1	0.3	10	1	-	50	B/E/C
	FJV992	120	120	5	0.05	200	-	6	1	0.3	10	1	-	50	B/E/C
KST5550		140	160	6	0.6	60	250	5	10	0.25	50	5	1.2	100	B/E/C
	KST5401	150	160	5	0.5	60	240	5	10	0.5	50	5	1	100	B/E/C
MMBT5550		150	160	6	0.6	60	250	5	10	0.25	50	5	1.2	50	B/E/C
	MMBT5401	150	160	5	0.6	60	250	5	10	0.5	50	5	1	50	B/E/C
KST5551		160	180	6	0.6	80	250	5	10	0.2	50	5	1	100	B/E/C
MMBT5551		160	180	6	0.6	80	250	5	10	0.2	50	5	1	100	B/E/C
KST43		200	200	6	0.5	40	-	10	30	0.5	20	2	0.9	50	B/E/C
	KST93	200	200	5	0.5	25	-	10	30	0.5	20	2	0.9	50	B/E/C
KST42		300	300	6	0.5	40	-	10	30	0.5	20	2	0.9	50	B/E/C
	KST92	300	300	5	0.5	25	-	10	30	0.5	20	2	0.9	50	B/E/C
MMBTA42		300	300	6	0.5	40	-	10	30	0.5	20	2	0.9	50	B/E/C
	MMBTA92	300	300	5	0.5	25	-	10	30	0.5	20	2	0.9	50	B/E/C
<b>SuperSOT™-3</b>															
FSB649		25	35	5	3	100	300	2	1000	0.3	1000	100	1.25	150	B/E/C
	FSB749	25	35	5	3	100	300	2	1000	0.3	1000	100	1.25	100	B/E/C
FMMT449		30	50	5	1	100	300	2	500	0.5	1000	100	1.25	150	B/E/C
	FMMT549	30	35	5	1	100	300	2	500	0.5	1000	100	1.25	100	B/E/C
	FSB6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100	-	-	B/E/C

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CB0</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>SuperSOT™-3 (continued)</b>															
FSB6714		30	40	5	2	50	250	1	1000	0.5	1000	100	-	-	B/E/C
	FSBCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5	-	-	B/E/C
FSB619		50	50	5	2	300	-	2	200	0.32	2000	50	1	100	B/E/C
FSB560A		60	80	5	2	250	550	2	500	0.3	2000	200	-	75	B/E/C
	FSB660A	60	60	5	2	250	550	2	500	0.3	2000	200	-	75	B/E/C
FSB560		60	80	5	2	100	300	2	500	0.35	2000	200	-	75	B/E/C
	FSB660	60	60	5	2	100	300	2	500	0.35	2000	200	-	75	B/E/C
<b>SOT-89</b>															
KSC2982		10	30	6	2	140	600	1	500	0.5	2000	50	-	-	B/C/E
	FJC1386	20	30	6	5	80	390	2	500	1	4	100	1.5	-	B/C/E
FJC2098		20	50	6	5	120	390	2	500	1	4	100	1.2	-	B/C/E
	KSB798	25	30	5	1	90	400	1	100	0.4	1000	100	1.2	-	B/C/E
KSD1621		25	30	6	2	100	560	2	100	0.4	1500	75	1.2	-	B/C/E
	KSB1121	25	30	6	2	100	560	2	100	0.6	1500	75	1.2	-	B/C/E
KSC2883	KSA1203	30	30	5	1.5	100	320	2	500	2	1500	30	-	-	B/C/E
	FJC1308	30	30	6	3	80	390	2	500	0.45	1500	150	1.5	-	B/C/E
FJC1963		30	50	6	3	120	560	2	500	0.45	1500	150	1.2	-	B/C/E
KSC2881	KSA1201	120	120	5	0.8	80	240	5	100	1	500	50	-	-	B/C/E
<b>SOT-223</b>															
BCP68	BCP69	20	30	5	1	85	375	1	500	0.5	1	100	-	-	B/C/E
	NZT749	25	35	5	3	80	300	2	1000	0.3	1000	100	1.25	75	B/C/E
FZT649	FZT749	25	35	5	3	100	300	2	1000	0.6	3000	300	1.25	150	B/C/E
	NZT6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100	-	-	B/C/E
NZT6714		30	40	5	2	50	250	1	1000	0.5	1000	100	-	-	B/C/E
PZT3904		40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	B/C/E
	PZT3906	40	40	5	0.2	100	300	1	10	0.4	50	5	0.95	250	B/C/E
PZT2222A		40	75	6	1	100	300	10	150	1	500	50	1.2	300	B/C/E
NZT6715	NZT6727	40	50	5	1.5	50	250	1	1000	0.5	1000	100	-	-	B/C/E
	FZT790A	40	50	5	3	250	550	2	500	0.3	1000	100	1.25	75	B/C/E
BCP54	BCP51	45	45	5	1.5	40	250	2	150	0.5	500	50	1	-	B/C/E
	PZT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50	2.6	200	B/C/E
	BCP52	60	60	5	1.2	40	250	2	150	0.5	500	50	-	-	B/C/E
	NZT6728	60	60	5	1.2	50	250	1	250	0.5	250	10	-	-	B/C/E
BCP55		60	60	5	1.5	40	250	2	150	0.5	500	50	-	-	B/C/E
NZT560A		60	80	5	3	250	550	2	500	0.4	3000	300	1.25	75	B/C/E
	NZT660A	60	60	5	3	250	550	2	500	0.4	3000	300	1.25	75	B/C/E
NZT560	NZT660	60	80	5	3	100	300	2	500	0.45	3000	300	1.25	75	B/C/E
NZT651	NZT751	60	80	5	4	75	-	2	500	0.3	1000	100	1.2	75	B/C/E
PZTA06		80	80	4	0.5	100	-	1	100	0.25	100	10	-	100	B/C/E
	PZTA56	80	80	4	0.5	100	-	1	100	0.25	100	10	-	50	B/C/E
FZT3019		80	140	7	1	100	300	10	150	0.2	150	15	1.1	100	B/C/E
	NZT6729	80	80	5	1	50	250	1	250	0.5	250	10	-	-	B/C/E
NZT6717		80	80	5	1.2	50	250	1	250	0.35	250	10	-	-	B/C/E
BCP56	BCP53	80	100	5	1.2	40	250	2	150	0.5	500	50	-	-	B/C/E
	NZT753	100	120	5	4	100	300	2	500	0.3	1000	100	1.25	75	B/C/E
PZTA42		300	300	6	0.5	40	-	10	30	0.5	20	2	0.9	50	B/C/E
	PZTA92	300	300	6	0.5	25	-	10	30	0.5	20	2	0.9	50	B/C/E
FJT44		400	500	6	0.3	50	200	10	10	0.5	10	1	0.75	-	B/C/E
<b>D-PAK</b>															
NZD560A		55	80	5	3	250	550	2	500	1.5	1000	8	1.25	75	B/C/E
<b>TO-92S</b>															
	KSA1150	20	40	5	0.5	40	400	1	100	0.4	500	50	1.3	-	E/C/B
KSC2710		20	40	5	0.5	40	400	1	100	0.4	500	50	-	-	E/C/B
KSC3488		25	30	5	0.3	70	400	1	50	0.4	300	30	-	-	E/C/B
	KSA1378	25	30	5	0.3	70	400	1	50	0.6	300	30	-	-	E/C/B
KSD1020	KSB810	25	30	5	0.7	70	400	1	100	0.4	700	70	1.2	50	E/C/B
KSD1021	KSB811	30	40	5	1	70	400	1	100	0.5	1000	100	1.2	-	E/C/B
	KSA1175	50	60	5	0.15	40	700	6	1	0.3	100	10	-	50	E/C/B
KSC2785		50	60	5	0.15	70	700	6	1	0.3	100	10	-	-	E/C/B
KSC2784		120	120	5	0.05	200	1200	6	1	0.3	10	1	-	50	E/C/B
	KSA1174	120	120	5	0.05	200	800	6	1	0.3	10	1	-	50	E/C/B
<b>TO-92</b>															
	PN5134	10	20	3.5	0.5	20	150	1	10	0.25	10	1	0.9	-	E/B/C
KSC5019		10	30	6	2	140	600	1	500	0.5	2000	50	-	-	E/C/B

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>TO-92 (continued)</b>															
	PN4258	12	12	4.5	0.2	30	120	3	10	0.5	50	5	1.5	700	E/B/C
	PN3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5	1.5	500	E/B/C
	PN2369	15	40	4.5	0.2	40	120	1	10	0.25	10	1	0.85	-	E/B/C
	2N5769	15	40	4.5	0.2	40	120	0.35	10	0.5	100	10	1.6	-	E/B/C
	PN2369A	15	40	4.5	0.2	40	120	1	10	0.5	100	10	1.6	-	E/B/C
	PN4275	15	40	4.5	0.2	35	120	1	10	0.5	100	10	1.6	-	E/B/C
	2N5771	15	15	4.5	0.2	50	120	0.3	10	0.6	50	5	1.5	-	E/B/C
	ST5771-1	15	15	4.5	0.2	30	150	0.3	10	0.6	50	5	1.5	-	E/B/C
	2N5772	15	40	5	0.3	30	120	0.4	30	0.28	100	10	1.2	-	E/B/C
	BC318C	20	30	5	0.1	420	800	5	2	0.5	100	5	-	-	E/B/C
	KSD261	20	40	5	0.5	40	400	1	100	0.4	500	50	-	-	E/B/C
	SS9013	20	40	5	0.5	64	202	1	50	0.6	500	50	1.2	-	E/B/C
	BC369	20	25	5	1.5	85	375	1	500	0.5	1000	100	-	45	E/C/B
	BC368	20	25	5	2	85	375	1	500	0.5	1000	100	-	45	E/C/B
	FJN5471	20	40	7	5	700	-	2	500	0.5	3000	100	1.5	-	E/C/B
	FJN965	20	40	7	5	230	600	2	500	1	3000	100	-	-	E/C/B
	KSD5041	20	40	7	5	180	600	2	500	1	3000	100	-	-	E/C/B
	KSC900	25	30	5	0.05	120	1000	3	0.5	0.2	20	2	-	-	E/B/C
	BC308	25	30	5	0.1	120	800	5	2	0.3	10	0.5	-	-	C/B/E
	BC309	25	30	5	0.1	120	800	5	2	0.3	10	0.5	-	-	C/B/E
	2N5089	25	30	4.5	0.1	400	1200	5	0.1	0.5	10	1	-	50	E/B/C
	KSP6520	25	40	4	0.1	200	400	10	2	0.5	50	5	-	-	E/B/C
	KSP6521	25	40	4	0.1	300	600	10	2	0.5	50	5	-	-	E/B/C
	MPS6521	25	40	4	0.1	300	600	10	2	0.5	50	5	-	-	E/B/C
	BC238	25	30	5	0.1	120	800	5	2	0.6	100	5	1.05	150	C/B/E
	BC239	25	30	5	0.1	120	800	5	2	0.6	100	5	1.05	150	C/B/E
	2N4124	25	30	5	0.2	120	360	1	2	0.3	50	5	0.95	300	E/B/C
	2N4126	25	25	4	0.2	120	360	1	2	0.4	50	5	0.95	250	E/B/C
	MPS6514	25	40	4	0.2	90	300	10	100	0.5	50	5	-	-	E/B/C
	MPS6515	25	40	4	0.2	250	500	10	2	0.5	50	5	-	-	E/B/C
	KSD227	25	30	5	0.3	70	400	1	50	0.4	300	30	-	-	E/B/C
	KSA642	25	30	5	0.3	70	400	1	50	0.6	300	30	-	-	E/B/C
	2N3702	25	40	5	0.5	60	300	5	50	0.25	50	5	-	100	E/C/B
	2N5172	25	25	5	0.5	100	500	10	10	0.25	10	1	-	-	E/C/B
	2N6076	25	25	5	0.5	100	500	10	10	0.25	10	1	0.8	-	E/C/B
	2N3415	25	25	5	0.5	180	540	4.5	2	0.3	50	3	1.3	-	E/C/B
	PN3565	25	30	6	0.5	150	600	10	1	0.35	1	0.1	-	-	E/B/C
	MPS6523	25	45	4	0.5	300	600	10	2	0.5	50	5	-	-	E/B/C
	2N3390	25	25	5	0.5	400	800	4.5	2	-	-	-	-	-	E/C/B
	2N3391A	25	25	5	0.5	250	500	4.5	2	-	-	-	-	-	E/C/B
	2N3392	25	25	5	0.5	150	300	4.5	2	-	-	-	-	-	E/C/B
	2N3393	25	25	5	0.5	90	180	4.5	2	-	-	-	-	-	E/C/B
	KSC2001	25	30	5	0.7	90	400	1	100	0.6	700	70	1.2	50	E/C/B
	MPS3702	25	40	5	0.8	60	300	5	50	0.25	50	5	-	100	E/B/C
	BC328	25	30	5	0.8	100	630	1	100	0.7	500	50	-	-	C/B/E
	PN3638	25	25	4.9	0.8	30	-	1	50	1	300	30	2	-	E/B/C
	PN3638A	25	25	4.9	0.8	100	-	1	50	1	300	30	2	-	E/B/C
	KSB564A	25	30	5	1	70	400	1	100	0.5	1000	100	1.2	-	E/B/C
	MPS6562	25	25	5	1	50	200	1	500	0.5	500	50	-	60	E/B/C
	PE8050	25	40	6	1	80	300	1	100	0.5	800	80	1.2	-	E/B/C
	SS8050	25	40	6	1.5	85	300	1	100	0.5	800	80	1.2	100	E/B/C
	SS9011	30	50	5	0.03	28	198	5	1	0.3	10	1	-	-	E/B/C
	KSC839	30	35	4	0.1	40	400	12	2	0.4	10	1	-	80	E/B/C
	2N5088	30	35	4.5	0.1	300	900	5	0.1	0.5	10	1	-	50	E/B/C
	BC183	30	45	5	0.1	80	-	5	100	0.6	100	5	1.2	150	C/B/E
	BC183C	30	45	6	0.1	120	800	5	2	0.6	100	5	1.2	150	C/B/E
	BC183LC	30	45	5	0.1	100	850	5	2	0.6	100	5	1.2	150	E/C/B
	BC549	30	30	5	0.1	110	800	5	2	0.6	100	5	-	-	C/B/E
	BC558	30	30	5	0.1	110	800	5	2	0.65	100	5	-	-	C/B/E
	BC559	30	30	5	0.1	110	800	5	2	0.65	100	5	-	-	C/B/E
	2N4123	30	40	5	0.2	50	150	1	2	0.3	50	5	0.95	250	E/B/C
	PN4917	30	30	5	0.2	150	300	1	10	0.3	50	5	1.1	-	E/B/C
	2N4125	30	40	4	0.2	50	150	1	2	0.4	50	5	0.95	-	E/B/C
	MPS6513	30	40	4	0.2	90	180	10	2	0.5	50	5	-	-	E/B/C
	BC184LC	30	45	5	0.2	250	-	5	2	0.6	100	5	1.2	150	E/C/B
	PN3643	30	60	5	0.5	100	300	10	150	0.22	150	15	-	-	E/B/C
	2N3703	30	50	5	0.5	30	150	5	50	0.25	50	5	-	100	E/C/B

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>TO-92 (continued)</b>															
BC184C		30	45	5	0.5	250	800	5	2	0.25	100	5	1.2	150	C/B/E
BC184L		30	45	5	0.5	130	-	5	100	0.25	100	5	1.2	150	E/C/B
	PN5138	30	30	5	0.5	50	800	10	0.0001	0.3	10	0.5	1	-	E/B/C
BC548		30	30	5	0.5	110	800	5	2	0.6	100	5	-	-	C/B/E
2N3704		30	50	5	0.5	100	300	2	50	0.6	100	5	-	100	E/C/B
BC184		30	45	5	0.5	130	-	5	100	0.6	100	5	1.2	150	C/B/E
	BC214	30	45	5	0.5	-	-	5	2	0.6	100	5	1.1	200	C/B/E
PN4141		30	60	5	0.5	100	300	10	150	1.6	500	50	2.6	-	E/B/C
	MPS3703	30	50	5	0.8	30	150	5	50	0.25	50	5	-	100	E/B/C
2N4953		30	60	5	1	200	600	10	150	0.3	150	15	1.3	-	E/C/B
KSD471A		30	40	5	1	70	400	1	100	0.5	1000	100	1.2	-	E/B/C
PN2222		30	60	5	1	100	300	10	150	1.6	500	50	2.6	-	E/B/C
2N3903		40	60	6	0.2	50	150	1	10	0.3	50	5	0.95	-	E/B/C
2N3904		40	60	6	0.2	100	300	1	10	0.3	50	5	0.95	300	E/B/C
	PN4122	40	40	5	0.2	150	300	1	10	0.3	50	5	1.1	-	E/B/C
	2N3905	40	40	5	0.2	50	150	1	10	0.4	50	5	0.95	-	E/B/C
	2N3906	40	40	5	0.2	100	300	1	10	0.4	50	5	0.95	250	E/B/C
	MPS6518	40	-	4	0.2	150	300	10	2	0.5	50	5	-	-	E/B/C
	2N5366	40	40	4	0.5	100	300	1	50	0.25	50	2.5	1.1	-	E/C/B
MPSA20		40	-	4	0.5	40	400	10	5	0.25	10	1	-	125	E/B/C
	PN4250	40	40	5	0.5	250	700	5	0.1	0.25	10	0.5	-	-	E/B/C
TIS97		40	40	6	0.5	250	700	5	0.1	-	-	-	-	-	C/B/E
PN3567		40	80	5	0.6	40	120	1	150	0.25	150	15	-	-	E/B/C
2N4400		40	60	6	0.6	50	150	1	150	0.75	500	50	1.2	-	E/B/C
	2N4402	40	40	5	0.6	50	150	2	150	0.75	500	50	1.3	-	E/B/C
2N4401		40	60	6	0.6	100	300	1	150	0.75	500	50	1.2	250	E/B/C
	2N4403	40	40	5	0.6	50	150	2	150	0.75	500	50	1.3	250	E/B/C
KSP2222A		40	75	6	0.6	100	300	10	150	1	500	50	2	300	E/B/C
	TIS93	40	40	5	0.8	100	300	2	50	0.25	50	5	-	-	C/B/E
	MPS6534	40	40	4	0.8	90	270	1	100	0.3	100	10	1	-	E/B/C
	PN2907	40	60	5	0.8	100	300	10	150	1.6	500	50	2.6	-	E/B/C
	PN4143	40	60	5	0.8	100	300	10	150	1.6	500	50	2.6	-	E/B/C
KS3302		40	50	5	1	-	-	-	-	0.15	100	10	1.2	-	E/B/C
MPS6531		40	60	5	1	90	270	1	100	0.3	100	10	-	-	E/B/C
PN2222A		40	75	6	1	100	300	10	150	1	500	50	2	300	E/B/C
2N5962		45	45	8	0.1	600	1400	5	10	0.2	10	0.5	-	-	E/B/C
	BC307	45	50	5	0.1	120	800	5	2	0.3	10	0.5	-	-	C/B/E
MPSA18		45	45	6.5	0.1	500	1500	5	10	0.3	50	5	-	100	E/B/C
SS9014		45	50	5	0.1	60	1000	5	1	0.3	100	5	1	150	E/B/C
BC237		45	50	6	0.1	120	800	5	2	0.6	100	5	1.05	150	C/B/E
BC547		45	50	6	0.1	110	800	5	2	0.6	100	5	-	-	C/B/E
BC550		45	50	5	0.1	110	800	5	2	0.6	100	5	-	-	C/B/E
	BC557	45	50	5	0.1	110	800	5	2	0.65	100	5	-	-	C/B/E
	BC560	45	50	5	0.1	110	800	5	2	0.65	100	5	-	-	C/B/E
	SS9015	45	50	5	0.1	60	1000	5	1	0.7	100	5	1	100	E/B/C
PN930		45	45	5	0.1	100	300	5	0.01	1	10	0.5	1	-	E/B/C
KSC815		45	60	5	0.2	40	400	1	50	0.4	150	15	1.1	100	E/B/C
	KSA539	45	60	5	0.2	40	240	1	50	0.5	150	15	1.2	-	E/B/C
PN3642		45	60	5	0.5	40	120	10	150	0.22	150	15	-	-	E/B/C
PN100		45	75	6	0.5	100	450	1	10	0.4	200	20	1	250	E/B/C
	PN200	45	60	6	0.5	100	450	1	10	0.4	200	20	1	250	E/B/C
PN100A		45	75	6	0.5	300	600	1	10	0.4	200	20	1	250	E/B/C
	PN200A	45	60	6	0.5	300	600	1	10	0.4	200	20	1	250	E/B/C
	BCX79	45	45	5	0.5	80	1000	1	10	0.6	100	2.5	1	-	C/B/E
	PN3644	45	45	5	0.8	100	300	10	150	0.4	150	15	1.3	-	E/B/C
	BC327	45	50	5	0.8	100	630	1	100	0.7	500	50	-	-	C/B/E
BC337		45	50	5	0.8	100	630	1	100	0.7	500	50	-	-	C/B/E
BC635	BC636	45	45	5	1	40	250	2	150	0.5	500	50	-	-	E/C/B
BCX59		45	-	7	-	80	1000	1	10	0.5	100	2.5	1	125	C/B/E
	2N5086	50	50	5	0.1	150	500	5	0.1	0.3	10	1	-	40	E/B/C
	2N5087	50	50	5	0.1	250	800	5	0.1	0.3	10	1	-	40	E/B/C
BC182LB		50	60	6	0.1	80	-	5	100	0.6	100	5	1.2	150	E/C/B
	BC212B	50	60	5	0.1	60	-	5	2	0.6	100	5	1.4	-	C/B/E
	BC212LB	50	60	5	0.1	60	-	5	2	0.6	100	5	1.4	-	E/C/B
2N5210		50	50	4.5	0.1	200	600	5	0.1	0.7	10	1	-	30	E/B/C
KSC1815		50	60	5	0.15	70	700	6	2	0.25	100	10	1	80	E/C/B
	KSA1015	50	50	5	0.15	70	700	6	2	0.3	100	10	1.1	80	E/C/B

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CB0</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>TO-92 (continued)</b>															
KSC3114		50	60	12	0.15	280	560	6	1	0.3	100	10	-	-	E/C/B
KSC945		50	60	5	0.15	40	700	6	1	0.3	100	10	-	-	E/B/C
	KSA733	50	60	5	0.15	40	700	6	1	0.3	100	10	-	50	E/B/C
2N6428A		50	60	6	0.2	250	-	5	1	0.6	100	5	-	100	E/B/C
	BC212	50	60	5	0.3	60	-	5	2	0.6	100	5	1.4	-	C/B/E
	BC212L	50	60	5	0.3	60	300	5	2	0.6	100	5	1.1	200	E/C/B
2N3416		50	50	5	0.5	75	225	4.5	2	0.3	50	3	1.3	-	E/C/B
2N3417		50	50	5	0.5	180	540	4.5	2	0.3	50	3	1.3	-	E/C/B
BC182		50	60	5	0.5	80	-	5	100	0.6	100	5	1.2	150	C/B/E
BC182B		50	60	5	0.5	80	-	5	100	0.6	100	5	1.2	150	C/B/E
BC182L		50	60	5	0.5	80	-	5	100	0.6	100	10	1.2	150	E/C/B
BC182LA		50	60	5	0.5	80	-	5	100	0.6	100	10	1.2	150	E/C/B
KSD1616		50	60	6	1	135	600	2	100	0.3	1000	50	1.2	100	E/C/B
	KSB1116	50	60	6	1	135	600	2	100	0.3	1000	50	1.2	70	E/C/B
2N5961		60	60	8	0.1	150	700	5	10	0.2	10	1	-	-	E/B/C
PN2484		60	60	5	0.1	100	500	5	0.01	0.35	1	0.1	-	-	E/B/C
KSP05	KSP55	60	60	4	0.5	50	-	1	10	0.25	100	10	-	100	E/B/C
	MPSA55	60	60	4	0.5	100	-	1	10	0.25	100	10	-	50	E/B/C
	PN4249	60	60	5	0.5	100	300	5	0.1	0.25	10	0.5	-	-	E/B/C
	PN4250A	60	60	5	0.5	250	700	5	0.1	0.25	10	0.5	-	-	E/B/C
MPSA05		60	60	4	0.5	100	-	1	100	0.25	100	10	-	100	E/B/C
KSP8098	KSP8598	60	60	6	0.5	100	300	5	1	0.4	100	5	-	150	E/B/C
MPS8098		60	60	6	0.5	100	300	5	1	0.4	100	5	-	150	E/B/C
	MPS8598	60	60	5	0.5	100	300	5	1	0.4	100	5	-	150	E/B/C
2N3859A		60	60	6	0.5	100	200	1	10	-	-	-	-	90	E/C/B
	KSP2907A	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	200	E/B/C
KSC1008		60	80	8	0.7	40	400	2	50	0.4	500	50	1.1	30	E/B/C
	KSA708	60	80	8	0.7	40	240	2	50	0.7	500	50	1.1	-	E/B/C
	PN3645	60	60	5	0.8	100	300	10	150	0.4	150	15	1.3	-	E/B/C
	PN4355	60	60	5	0.8	100	400	10	10	1	1000	100	1.2	-	E/B/C
	PN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50	2.6	200	E/B/C
PN3568		60	80	5	1	40	120	1	150	0.25	150	15	-	-	E/B/C
	KSB1116A	60	80	6	1	135	400	2	100	0.3	1000	50	1.2	70	E/C/B
KSD1616A		60	120	6	1	135	400	2	100	0.3	1000	50	1.2	100	E/C/B
BC637	BC638	60	60	5	1	40	160	2	150	0.5	500	50	-	-	E/C/B
BC337A	BC327A	60	60	5	1	100	400	1	100	0.7	500	50	-	-	C/B/E
	MPS751	60	80	5	2	75	-	2	500	0.3	1000	100	1.2	75	E/B/C
MPS651		60	80	5	-	75	-	2	500	0.3	1000	100	1.2	75	E/B/C
BC546		65	80	6	0.1	110	800	5	2	0.6	100	5	-	-	C/B/E
	BC556	65	80	5	0.1	110	800	5	2	0.65	100	5	-	-	C/B/E
2N4410		80	120	5	0.2	60	400	1	10	0.2	1	0.1	0.8	-	E/B/C
KSP06	KSP56	80	80	4	0.5	50	-	1	10	0.25	100	10	-	100	E/B/C
MPSA06		80	80	4	0.5	100	-	1	100	0.25	100	10	-	100	E/B/C
	MPSA56	80	80	4	0.5	100	-	1	100	0.25	100	10	-	50	E/B/C
KSP8099	KSP8599	80	80	6	0.5	100	300	5	1	0.4	100	5	0.7	150	E/B/C
	PN4356	80	80	5	0.8	50	250	10	10	0.5	500	50	1.1	-	E/B/C
BC639	BC640	80	100	5	1	40	160	2	150	0.5	500	50	-	-	E/C/B
BC639-16		80	100	5	1	100	250	2	150	0.5	500	50	-	-	E/C/B
2N5830		100	120	5	0.2	80	500	5	10	0.25	50	5	1	-	E/B/C
	MPSL51	100	100	4	0.2	40	250	5	50	0.3	50	5	1.2	60	E/B/C
KSC1845		120	120	5	0.05	200	1200	6	1	0.3	10	1	-	50	E/C/B
	KSA992	120	120	5	0.05	200	800	6	1	0.3	10	1	-	50	E/C/B
MPSL01		120	140	5	0.2	50	300	5	10	0.3	50	5	1.4	60	E/B/C
	2N5400	120	130	5	0.6	40	180	5	10	0.5	50	5	1	100	E/B/C
2N5550		140	160	6	0.6	60	250	5	10	0.25	50	5	1.2	100	E/B/C
KSC1009		140	160	8	0.7	40	400	2	50	0.7	200	20	1	30	E/B/C
	2N5401	150	160	5	0.6	60	240	5	10	0.5	50	5	1	100	E/B/C
	KSA709	150	160	8	0.7	40	400	2	50	0.4	200	20	1	-	E/B/C
2N5551		160	180	6	0.6	80	250	5	10	0.2	50	5	1	100	E/B/C
MPSA43		200	200	6	0.2	50	200	10	30	0.4	20	2	0.9	50	E/B/C
	MPSA93	200	200	5	0.5	40	-	10	10	0.4	20	2	0.9	50	E/B/C
KSP43		200	200	6	0.5	40	-	10	30	0.5	20	2	0.9	50	E/B/C
	KSP93	200	200	5	0.5	40	-	10	10	0.5	20	2	0.9	50	E/B/C
2N6515		250	250	6	0.5	50	300	10	30	0.5	30	3	0.9	40	E/B/C
	2N6518	250	250	5	0.5	50	300	10	30	0.5	30	3	0.9	40	E/B/C
KSP42		300	300	6	0.5	40	-	10	30	0.5	20	2	0.9	50	E/B/C
	KSP92	300	300	5	0.5	40	-	10	10	0.5	20	2	0.9	50	E/B/C

# General Purpose Transistors (continued)

Products		V <sub>CEO</sub> (V)	V <sub>CB0</sub> (V)	V <sub>EB0</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>TO-92 (continued)</b>															
MPSA42		300	300	6	0.5	40	-	10	30	0.5	20	2	0.9	50	E/B/C
	MPSA92	300	300	5	0.5	40	-	10	10	0.5	20	2	0.9	50	E/B/C
2N6516		300	300	6	0.5	45	270	10	30	1	50	5	0.9	40	E/B/C
	2N6519	300	300	5	0.5	45	270	10	30	1	50	5	0.9	40	E/B/C
KSP45		350	400	6	0.3	50	200	10	10	0.5	10	1	0.75	-	E/B/C
2N6517		350	350	6	0.5	30	200	10	30	0.5	30	3	0.9	40	E/B/C
	2N6520	350	350	5	0.5	30	200	10	30	0.5	30	3	0.9	40	E/B/C
KSE13001		400	400	7	0.1	40	80	10	20	0.5	10	1	-	-	E/C/B
KSP44		400	500	6	0.3	50	200	10	10	0.5	10	1	0.75	-	E/B/C
	KSP94	400	400	6	0.3	50	300	10	10	0.5	10	1	0.75	-	E/B/C
	KSA1625	400	400	7	0.5	40	200	5	50	1	100	10	1.2	10	E/C/B
<b>TO-226AE</b>															
	ZTX749	25	35	5	2	100	300	2	1000	0.3	1000	100	1.25	100	E/B/C
	TN6726A	30	40	5	1.5	50	250	1	1000	0.5	1000	100	-	-	E/B/C
	FPN430A	30	35	5	2	250	-	2	100	0.45	1000	100	1.25	100	E/B/C
	FPN430	30	35	5	2	100	-	2	100	0.5	1000	100	1.25	100	E/B/C
TN6714A		30	40	5	2	50	250	1	1000	0.5	1000	100	-	-	E/B/C
MPSW01		30	40	5	2	60	-	1	100	0.5	1	100	-	50	E/B/C
FPN530A		30	60	5	3	250	-	2	100	0.25	1000	100	1.25	150	E/B/C
	FPN630A	30	35	5	3	250	-	2	100	0.25	1000	100	1.25	100	E/B/C
FPN530		30	60	5	3	100	-	2	100	0.3	1000	100	1.25	150	E/B/C
	FPN630	30	35	5	3	100	-	2	100	0.3	1000	100	1.25	100	E/B/C
FPN330A		30	50	5	3	250	-	2	100	0.45	1000	100	1.25	100	E/B/C
FPN330		30	50	5	3	100	-	2	100	0.5	1000	100	1.25	100	E/B/C
	ZTX749A	35	45	5	2	100	300	2	1000	0.3	1000	100	1.25	100	E/B/C
TN2219A		40	75	6	1	100	300	10	150	1	500	50	2	-	E/B/C
MPSW3725		40	60	6	1.2	60	180	1	100	0.95	1000	100	1.7	250	E/B/C
TN6715A	TN6727A	40	50	5	1.5	50	250	1	1000	0.5	1000	100	-	-	E/B/C
TN6705A		45	60	5	1.5	40	250	2	250	1	1000	100	-	-	E/B/C
	TN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50	2.6	-	E/B/C
	TN6728A	60	60	5	1.2	50	250	1	250	0.5	250	10	-	-	E/B/C
TN6716A		60	60	5	2	50	250	1	250	0.5	250	10	-	-	E/B/C
FPN560A		60	80	5	3	250	550	2	500	0.3	2000	200	-	75	E/B/C
FPN560		60	80	5	3	100	300	2	500	0.35	2000	200	-	75	E/B/C
	FPN660A	60	80	5	3	250	550	2	500	0.4	2000	200	-	75	E/B/C
	FPN660	60	80	5	3	100	300	2	500	0.45	2000	200	-	75	E/B/C
TN2102A		65	120	7	-	40	120	10	150	0.5	150	15	1.1	-	E/B/C
	TN5320A	75	100	-	-	30	130	4	500	0.5	500	50	-	-	E/B/C
MPSW06		80	80	4	0.5	100	-	1	100	0.25	100	10	-	100	E/B/C
	MPSW56	80	80	4	1	100	-	1	50	0.5	250	10	-	50	E/B/C
TN3019A		80	140	7	1	100	300	10	150	0.5	500	50	-	100	E/B/C
	TN4033A	80	80	5	1	100	300	5	100	0.5	500	50	-	-	E/B/C
	TN6729A	80	80	5	1	50	250	1	250	0.5	250	10	-	-	E/B/C
TN6717A		80	80	5	1.2	50	250	1	250	0.35	250	10	-	-	E/B/C
TN6707A		80	100	5	1.2	40	250	2	250	1	1000	100	-	50	E/C/B
ZTX614		100	120	10	0.8	10000	-	5	500	1.25	800	8	-	-	E/B/C
TN6718A		100	100	5	1.2	50	250	1	250	0.5	250	10	-	-	E/B/C
	TN5415A	200	200	4	0.1	30	150	10	50	2.5	50	5	-	-	E/B/C
TN3440A		250	300	7	0.1	40	160	10	20	0.5	50	4	1.3	15	E/B/C
TN6719A		300	300	7	0.2	40	200	10	30	0.75	30	3	-	-	E/B/C
<b>TO-92L</b>															
KSC2500		10	30	6	2	140	600	1	500	0.5	2000	50	-	-	E/C/B
KSC2328A	KSA928A	30	30	5	2	100	320	2	500	2	1500	30	-	-	E/C/B
	KSA1281	50	50	5	2	70	240	2	500	0.5	1000	0.05	1.2	-	E/C/B
KSC2331	KSA931	60	80	8	0.7	40	240	2	50	0.7	500	50	1.2	-	E/C/B
KSC2316	KSA916	120	120	5	0.8	80	240	5	100	1	500	50	-	-	E/C/B
KSC2310		150	200	5	0.05	40	240	5	10	0.5	10	1	-	-	E/C/B
	KSA910	150	150	5	0.05	40	240	5	10	0.8	10	1	-	-	E/C/B
KSC2383		160	160	6	1	60	320	5	200	1.5	500	50	-	20	E/C/B
	KSA1013	160	160	6	1	60	320	5	200	1.5	500	50	-	15	E/C/B
	KSA1370	200	200	5	0.1	40	320	10	10	0.6	20	2	-	-	E/C/B
KSC2330		300	300	7	0.1	40	240	10	20	0.5	10	1	-	-	E/C/B
KSC2330A		400	400	7	0.1	40	80	10	20	0.5	10	1	-	-	E/C/B

# Darlington Transistors

Products		V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)	Lead array (1/2/3)
NPN	PNP					Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)		
<b>SOT-23</b>															
KST13		30	30	10	0.3	10000	-	5	100	1.5	100	0.1	-	125	B/E/C
KST14		30	30	10	0.3	20000	-	5	100	1.5	100	0.1	-	125	B/E/C
	KST63	30	30	10	0.5	10000	-	5	100	1.5	100	0.1	-	125	B/E/C
	KST64	30	30	10	0.5	20000	-	5	100	1.5	100	0.1	-	125	B/E/C
MMBTA13	MMBTA63	30	30	10	1.2	10000	-	5	100	1.5	100	0.1	-	125	B/E/C
BCV27	BCV26	30	40	10	1.2	20000	-	5	100	1	100	0.1	1.5	-	B/E/C
MMBTA14	MMBTA64	30	30	10	1.2	20000	-	5	100	1.5	100	0.1	-	125	B/E/C
MMBT6427		40	40	12	1.2	20000	200000	5	100	1.5	500	0.5	2	-	B/E/C
<b>SuperSOT™-3</b>															
MMBTA28		80	80	12	0.8	10000	-	5	100	1.5	100	0.1	-	125	B/E/C
<b>SOT-223</b>															
PZTA14	PZTA64	30	30	10	1.2	20000	-	5	100	1.5	100	0.1	-	125	B/C/E
BSP50		45	60	5	0.8	2000	-	10	500	1.3	500	0.5	1.9	-	B/C/E
BSP51		60	80	5	0.8	2000	-	10	500	1.3	500	0.5	1.9	-	B/C/E
BSP52		80	90	5	0.8	2000	-	10	500	1.3	500	0.5	1.9	-	B/C/E
PZTA28		80	80	12	0.8	10000	-	5	100	1.5	100	0.1	-	125	B/C/E
NZT7053		100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	-	200	B/C/E
NZT605		110	140	10	1.5	5000	-	5	500	1.5	1000	1	1.8	150	B/C/E
PZTA27		-	60	10	0.8	10000	-	5	100	1.5	100	0.1	-	125	B/C/E
PZTA29		-	100	12	0.8	10000	-	5	100	1.5	100	0.1	-	125	B/C/E
<b>TO-92</b>															
KSP12	KSP62	20	20	10	0.5	20000	-	5	10	1	10	0.01	-	-	E/B/C
MPSA12		20	20	10	1.2	20000	-	5	10	1	10	0.01	-	-	E/B/C
2N5306		25	25	12	1.2	7000	70000	5	2	1.4	200	0.2	1.6	-	E/C/B
KSP13	KSP63	30	30	10	0.5	10000	-	5	100	1.5	100	0.1	-	125	E/B/C
KSP14	KSP64	30	30	10	0.5	20000	-	5	100	1.5	100	0.1	-	125	E/B/C
	BC516	30	40	10	1	30000	-	2	20	1	100	0.1	-	-	C/B/E
MPSA13	MPSA63	30	30	10	1.2	10000	-	5	100	1.5	100	0.1	-	125	E/B/C
MPSA14	MPSA64	30	30	10	1.2	20000	-	5	100	1.5	100	0.1	-	125	E/B/C
	MPSA65	30	30	10	1.2	20000	-	5	100	1.5	100	0.1	-	100	E/B/C
KSP25	KSP75	40	40	10	0.5	10000	-	5	100	1.5	100	0.1	-	-	E/B/C
2N5307		40	40	12	1.2	2000	20000	5	2	1.4	200	0.2	1.6	-	E/C/B
2N5308		40	40	12	1.2	7000	70000	5	2	1.4	200	0.2	1.6	-	E/C/B
2N6427		40	40	12	1.2	20000	200000	5	100	1.5	500	0.5	2	-	E/B/C
2N6426		40	40	12	1.2	30000	300000	5	100	1.5	500	0.5	2	-	E/B/C
BC517		40	30	10	1.2	30000	-	2	20	1	100	10	-	-	C/B/E
KSP26	KSP76	50	50	10	0.5	10000	-	5	100	1.5	100	0.1	-	-	E/B/C
KSP27	KSP77	60	60	10	0.5	10000	-	5	100	1.5	100	0.1	-	-	E/B/C
	MPSA77	60	60	10	1	10000	-	5	100	1.5	100	0.1	-	-	E/B/C
BSR50		60	60	5	1.5	1000	-	10	150	1.6	1000	4	2.2	-	E/C/B
MPSA27		60	60	-	1.5	10000	-	5	100	1.5	100	10	2	125	E/B/C
MPSA28		80	80	12	0.8	10000	-	5	100	1.5	100	0.1	-	125	E/B/C
MPSA29		100	100	12	0.8	10000	-	5	100	1.5	100	0.1	-	125	E/B/C
2N7051		100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	-	200	E/C/B
2N7052		100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	-	200	E/B/C
<b>TO-226AE</b>															
TN6725A		50	60	12	1.2	4000	40000	5	1000	1.5	1000	2	2	-	E/B/C
2N7053		100	100	12	1.5	1000	20000	5	1000	1.5	100	0.1	-	200	E/B/C

Products		R <sub>1</sub>	R <sub>2</sub>	V <sub>CEO</sub>	V <sub>CBO</sub>	V <sub>EB0</sub>	I <sub>c(Max)</sub>	h <sub>FE</sub>				Saturation Voltage			Lead array
NPN	PNP	(kΩ)	(kΩ)	(V)	(V)	(V)	(A)	Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE(sat)</sub> (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>b</sub> (mA)	(1/2/3)
<b>SOT-323</b>															
FJX3009R	FJX4009R	4.7	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJX3010R	FJX4010R	10	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJX3011R	FJX4011R	22	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJX3012R	FJX4012R	47	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJX3015R		2.2	10	50	50	10	0.1	33	-	5	10	0.3	10	0.5	B/E/C
FJX3013R	FJX4013R	2.2	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJX3001R	FJX4001R	4.7	4.7	50	50	10	0.1	20	-	5	10	0.3	10	0.5	B/E/C
FJX3005R	FJX4005R	4.7	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	B/E/C
FJX3014R	FJX4014R	4.7	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJX3002R	FJX4002R	10	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	B/E/C
FJX3006R	FJX4006R	10	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJX3003R	FJX4003R	22	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	B/E/C
FJX3007R	FJX4007R	22	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJX3008R	FJX4008R	47	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	B/E/C
FJX3004R	FJX4004R	47	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
<b>SOT-23</b>															
FJV3109R	FJV4109R	4.7	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJV3110R	FJV4110R	10	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJV3111R	FJV4111R	22	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJV3112R	FJV4112R	47	-	40	40	5	0.1	100	600	5	1	0.3	10	1	B/E/C
FJV3115R		2.2	10	50	50	10	0.1	33	-	5	10	0.3	10	0.5	B/E/C
FJV3113R	FJV4113R	2.2	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJV3101R	FJV4101R	4.7	4.7	50	50	10	0.1	20	-	5	10	0.3	10	0.5	B/E/C
FJV3105R	FJV4105R	4.7	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	B/E/C
FJV3114R	FJV4114R	4.7	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJV3102R	FJV4102R	10	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	B/E/C
FJV3106R	FJV4106R	10	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJV3103R	FJV4103R	22	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	B/E/C
FJV3107R	FJV4107R	22	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
FJV3108R	FJV4108R	47	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	B/E/C
FJV3104R	FJV4104R	47	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	B/E/C
<b>TO-92S</b>															
FJNS3209R	FJNS4209R	4.7	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJNS3210R	FJNS4210R	10	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJNS3211R	FJNS4211R	22	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJNS3212R	FJNS4212R	47	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJNS3215R		2.2	10	50	50	10	0.1	33	-	5	10	0.3	10	0.5	E/C/B
FJNS3213R	FJNS4213R	2.2	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJNS3201R	FJNS4201R	4.7	4.7	50	50	10	0.1	20	-	5	10	0.3	10	0.5	E/C/B
FJNS3205R	FJNS4205R	4.7	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	E/C/B
FJNS3214R	FJNS4214R	4.7	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJNS3202R	FJNS4202R	10	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	E/C/B
FJNS3206R	FJNS4206R	10	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJNS3203R	FJNS4203R	22	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	E/C/B
FJNS3207R	FJNS4207R	22	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJNS3208R	FJNS4208R	47	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	E/C/B
FJNS3204R	FJNS4204R	47	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
<b>TO-92</b>															
FJN3309R	FJN4309R	4.7	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJN3310R	FJN4310R	10	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJN3311R	FJN4311R	22	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJN3312R	FJN4312R	47	-	40	40	5	0.1	100	600	5	1	0.3	10	1	E/C/B
FJN3315R		2.2	10	50	50	10	0.1	33	-	5	10	0.3	10	0.5	E/C/B
FJN3313R	FJN4313R	2.2	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJN3301R	FJN4301R	4.7	4.7	50	50	10	0.1	20	-	5	10	0.3	10	0.5	E/C/B
FJN3305R	FJN4305R	4.7	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	E/C/B
FJN3314R	FJN4314R	4.7	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJN3302R	FJN4302R	10	10	50	50	10	0.1	30	-	5	5	0.3	10	0.5	E/C/B
FJN3306R	FJN4306R	10	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJN3303R	FJN4303R	22	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	E/C/B
FJN3307R	FJN4307R	22	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B
FJN3308R	FJN4308R	47	22	50	50	10	0.1	56	-	5	5	0.3	10	0.5	E/C/B
FJN3304R	FJN4304R	47	47	50	50	10	0.1	68	-	5	5	0.3	10	0.5	E/C/B

# Hybrid Transistors

Products	Configuration	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				f <sub>r</sub> (Min) (MHz)
						Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE</sub> (sat) (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>B</sub> (mA)	V <sub>BE</sub> (sat) (Max)(V)	
<b>SOT-563F</b>														
FJYF2906	PNP Dual	40	40	5	0.15	80	300	1	1	0.3	10	1	0.95	250
<b>SC70-6</b>														
FFB2227A	NPN   PNP Dual	30	60	5	0.5	100	-	10	150	1.4	300	30	1.3	-
FFB3946	NPN   PNP Dual	40	40	5	0.2	100	300	1	10	0.25	10	1	0.9	-
FFB3904	NPN Dual	40	60	6	0.2	100	300	1	10	0.3	50	5	0.85	-
FFB2222A	NPN Dual	40	75	5	0.5	100	300	10	150	1	500	50	2	-
BC847S	NPN Dual	45	50	6	0.2	110	630	5	2	0.65	100	5	-	-
FFB3906	PNP Dual	40	40	5	0.2	100	300	1	10	0.4	50	5	0.85	-
BC857S	PNP Dual	45	50	6	0.2	110	630	5	2	0.65	100	5	-	-
FFB2907A	PNP Dual	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	-
<b>SuperSOT™-6</b>														
FMB2227A	NPN   PNP Dual	30	60	5	0.5	100	-	10	150	1.4	300	30	1.3	-
FMB3946	NPN   PNP Dual	40	40	5	0.2	100	300	1	10	0.25	10	1	0.9	-
FMBA14	NPN Dual	30	30	10	1.2	20000	-	5	100	1.5	100	0.1	-	-
FMB3904	NPN Dual	40	60	6	0.2	100	300	1	10	0.3	50	5	0.85	-
FMB2222A	NPN Dual	40	75	5	0.5	100	300	10	150	1	500	50	2	-
FMB100	NPN Dual	45	75	6	0.5	100	450	1	10	0.4	200	20	1	-
FMBA06	NPN Dual	80	80	4	0.5	100	-	1	100	0.25	100	10	-	-
FMB5551	NPN Dual	160	180	6	0.1	80	250	5	10	0.15	10	1	1	100
FMBS549	PNP Dual	30	35	5	1	100	300	2	500	0.75	2000	200	-	100
FMB3906	PNP Dual	40	40	5	0.2	100	300	1	10	0.4	50	5	0.85	-
FMB857B	PNP Dual	45	50	5	0.1	220	475	5	2	0.3	10	0.5	-	-
FMB200	PNP Dual	45	60	6	0.5	100	450	1	10	0.4	200	20	1	-
FMB2907A	PNP Dual	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	-
FMBA56	PNP Dual	80	80	4	0.5	100	-	1	100	0.25	100	10	-	50
<b>SOIC-16</b>														
MMPQ6700	NPN   PNP Quad	40	40	5	0.2	70	-	1	10	0.25	10	1	0.9	200
MMPQ2222	NPN Quad	30	60	5	0.5	75	-	10	10	0.4	150	15	1.3	-
MMPQ3904	NPN Quad	40	60	6	0.2	75	-	1	10	0.3	50	5	0.85	-
MMPQ2222A	NPN Quad	40	75	5	0.5	100	300	10	150	1	500	50	2	-
FTM3725	NPN Quad	40	60	6	1.2	60	180	1	100	0.26	100	10	0.76	-
MMPQ3906	PNP Quad	40	40	5	0.2	75	-	1	10	0.4	50	5	0.85	-
MMPQ2907	PNP Quad	40	60	5	0.6	100	300	10	150	1.6	300	30	2.6	-
MMPQ2907A	PNP Quad	60	60	5	0.6	100	300	10	150	1.6	500	50	2.6	-

# RF Amplifier Transistors

Products		V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EB0</sub> (V)	f <sub>r</sub> (Min) (MHz)	I <sub>c</sub> (Max) (A)	h <sub>FE</sub>				Saturation Voltage				Lead array (1/2/3)
NPN	PNP						Min	Max	@ V <sub>CE</sub> (V)	@ I <sub>c</sub> (mA)	V <sub>CE(sat)</sub> (Max)(V)	@ I <sub>c</sub> (mA)	@ I <sub>s</sub> (mA)	V <sub>BE(sat)</sub> (Max)(V)	
<b>SOT-23</b>															
KST5179		12	20	2.5	900	0.05	25	-	1	3	0.4	10	1	1	B/E/C
MMBT5179		12	20	2.5	900	0.05	25	250	1	3	0.4	10	1	1	B/E/C
MMBT5770		15	30	4.5	600	0.05	50	200	10	8	0.4	10	1	0.94	B/E/C
MMBT918		15	30	3	600	0.05	20	-	1	3	0.4	10	1	1	B/E/C
KSC2757		15	30	5	800	0.05	60	240	10	5	0.5	10	1	-	B/E/C
KSC2223		20	30	4	400	0.02	40	180	6	1	0.3	10	1	-	B/E/C
KSC2756		20	30	4	500	0.03	60	240	10	5	0.5	10	1	-	B/E/C
	MMBTH81	20	20	3	600	0.05	60	-	10	5	0.5	5	0.5	-	B/E/C
KSC3123		20	30	3	900	0.05	60	240	10	5	-	-	-	-	B/E/C
KST10		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
MMBTH10		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
MMBTH11		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
KSC2715		30	35	4	100	0.05	40	240	12	2	0.4	10	1	-	B/E/C
KSC2755		30	30	5	400	0.02	60	240	10	3	-	-	-	-	B/E/C
MMBTH24		30	40	4	400	0.05	30	-	10	8	-	-	-	-	B/E/C
KST24		30	40	4	400	0.1	30	-	10	8	-	-	-	-	B/E/C
MMBTH10RG		40	40	4	450	0.045	50	120	6	1	0.2	10	5	0.9	B/E/C
MMBTH34		40	40	4	500	-	40	-	15	7	-	-	-	-	B/E/C
<b>TO-92S</b>															
KSC2786		20	30	4	400	0.02	40	240	6	1	0.3	10	1	-	E/C/B
KSC2669		30	35	4	100	0.03	40	240	12	2	0.4	10	1	-	E/C/B
KSC2787		30	50	5	150	0.05	40	240	6	1	0.3	10	1	-	E/C/B
<b>TO-92</b>															
2N3663		12	30	3	700	0.05	20	-	10	8	-	-	-	-	E/C/B
KSP5179		12	20	2.5	900	0.05	25	250	1	3	0.4	10	1	1	E/B/C
MPS5179		12	20	2.5	900	0.05	25	250	1	3	0.4	10	1	1	E/B/C
PN5179		12	20	2.5	900	0.05	25	250	1	3	0.4	10	1	1	B/E/C
PN3563		15	30	2	600	0.05	20	200	10	8	-	-	-	-	E/B/C
PN918		15	30	3	600	0.05	20	-	1	3	0.4	10	1	1	E/B/C
SS9018		15	30	5	700	0.05	28	198	5	1	0.5	10	1	-	E/B/C
KSC1730		15	30	5	800	0.05	40	240	10	5	0.5	10	1	-	E/C/B
2N5770		15	30	4.5	-	0.05	50	200	10	8	0.4	10	1	1	E/B/C
KSC1674		20	30	4	400	0.02	40	240	6	1	0.3	10	1	-	E/B/C
KSC1187		20	30	4	400	0.03	40	240	10	2	-	-	-	-	E/B/C
MPSH81		20	20	3	600	0.05	60	-	10	5	0.5	5	0.5	-	B/E/C
BF494		20	30	5	-	-	65	220	10	1	0.2	10	5	0.92	C/E/B
KSC388		25	30	4	300	0.05	20	200	12.5	12.5	0.2	15	1.5	1.5	E/B/C
BF199		25	40	4	650	0.05	38	-	10	7	0.2	10	5	0.92	C/E/B
FPNH10		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	E/B/C
KSP10		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
MPSH10		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
MPSH11		25	30	3	650	0.05	60	-	10	4	0.5	4	0.4	-	B/E/C
KSC838		30	35	4	100	0.03	40	240	12	2	0.4	10	1	-	E/B/C
KSC1675		30	50	5	150	0.05	40	240	6	1	0.3	10	1	-	E/B/C
KSC1393		30	30	4	400	0.02	40	180	10	2	-	-	-	-	B/E/C
MPSH24		30	40	4	400	0.05	30	-	10	8	-	-	-	-	B/E/C
KSP24		30	40	4	400	0.1	30	-	10	8	-	-	-	-	B/E/C
MPSH34		40	40	4	500	-	40	-	15	7	0.22	10	5	0.92	B/E/C
BF240		40	40	4	-	-	65	225	10	1	0.65	1	-	-	C/E/B

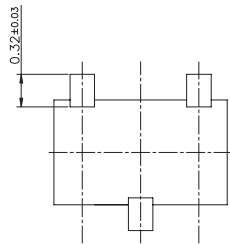
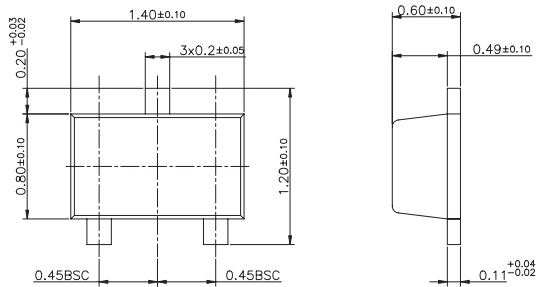
Products	Config-uration	BV <sub>gss</sub> (V)	P <sub>o</sub> (mW)	I <sub>oss</sub>			V <sub>gs(off)</sub>					G <sub>fs</sub>			R <sub>ds</sub> (Ω)	I <sub>b(off)</sub> (μA)	Lead array (1/2/3)
				Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (V)	Typ (V)	Max (V)	@ I <sub>b</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mmhos)	Typ (mmhos)	Max (mmhos)			
<b>SOT-623F</b>																	
FJZ594J	N-Ch	20	100	0.15	0.35	5	-	0.6	1.5	1	5	-	-	-	-	-	D/S/G
<b>SOT-323</b>																	
FJX597JH	N-Ch	20	100	0.15	0.35	5	-	0.6	1.5	1	5	-	-	-	-	-	D/S/G
<b>SOT-23</b>																	
KSK211	N-Ch	18	200	1	10	10	0.4	-	4	1	10	-	-	-	-	-	D/G/S
KSK595	N-Ch	20	100	0.15	0.35	5	-	0.6	1.5	1	5	-	-	-	-	-	D/S/G
MMBF5484	N-Ch	25	225	1	5	15	0.3	-	3	0.01	15	3	-	6	-	-	D/S/G
MMBF5485	N-Ch	25	225	4	10	15	0.5	-	4	0.01	15	3.5	-	7	-	-	D/S/G
MMBFJ211	N-Ch	25	225	7	20	15	2.5	-	4.5	0.001	15	6	-	12	-	-	D/S/G
MMBF5486	N-Ch	25	225	8	20	15	2	-	6	0.01	15	4	-	8	-	-	D/S/G
MMBFJ212	N-Ch	25	225	15	40	15	4	-	6	0.001	15	7	-	12	-	-	D/S/G
MMBFJ309	N-Ch	25	350	12	30	10	1	-	4	0.001	10	10	-	20	-	-	D/S/G
MMBF5457	N-Ch	25	350	1	5	15	0.5	-	6	0.01	15	1	-	5	-	-	D/S/G
MMBFJ310	N-Ch	25	350	24	60	10	2	-	6.5	0.001	10	8	-	18	-	-	D/S/G
MMBF5458	N-Ch	25	350	2	9	15	1	-	7	0.01	15	1.5	-	5.5	-	-	D/S/G
MMBF5459	N-Ch	25	350	4	16	15	2	-	8	0.01	15	2	-	6	-	-	D/S/G
MMBF4416	N-Ch	30	225	0.005	0.015	15	2.5	-	6	0.001	15	-	-	-	-	-	D/S/G
MMBF4393	N-Ch	30	350	5	30	20	0.5	-	3	0.001	20	-	-	-	100	0.0001	D/S/G
MMBF4392	N-Ch	30	350	25	75	20	2	-	5	0.001	20	-	-	-	60	0.0001	D/S/G
MMBF4391	N-Ch	30	350	50	150	20	4	-	10	0.001	20	-	-	-	30	0.0001	D/S/G
MMBF4416A	N-Ch	35	225	5	15	15	-	-	6	0.001	15	4.5	-	7.5	-	-	D/S/G
MMBFJ113	N-Ch	35	350	2	-	15	0.5	-	3	1	5	-	-	-	100	0.001	D/S/G
MMBFJ112	N-Ch	35	350	5	-	15	1	-	5	1	5	-	-	-	50	0.001	D/S/G
MMBFJ111	N-Ch	35	350	20	-	15	3	-	10	1	5	-	-	-	30	0.001	D/S/G
MMBF4117	N-Ch	40	225	0.03	0.09	10	0.6	-	1.8	0.001	10	0.07	-	0.21	-	-	D/S/G
MMBF4118	N-Ch	40	225	0.08	0.24	10	1	-	3	0.001	10	0.08	-	0.25	-	-	D/S/G
MMBF4119	N-Ch	40	225	0.2	0.6	10	2	-	6	0.001	10	0.1	-	0.33	-	-	D/S/G
BSR58	N-Ch	40	250	8	80	15	0.8	-	4	0.0005	15	-	-	-	60	-	D/S/G
BSR56	N-Ch	40	250	50	-	15	4	-	10	0.0005	15	-	-	-	25	-	D/S/G
BSR57	N-Ch	40	250	20	100	15	-	-	-	-	-	-	-	-	-	-	D/S/G
MMBFJ201	N-Ch	40	350	0.2	1	20	0.3	-	1.5	0.01	20	-	-	-	-	-	D/S/G
MMBF5103	N-Ch	40	350	10	40	15	1.2	-	2.7	0.001	15	7.5	-	15	-	-	D/S/G
MMBFJ202	N-Ch	40	350	0.9	4.5	20	0.8	-	4	0.01	20	-	-	-	-	-	D/S/G
MMBF4093	N-Ch	40	350	8	-	20	1	-	5	0.001	20	-	-	-	80	0.0002	D/S/G
MMBF4092	N-Ch	40	350	15	-	20	2	-	7	0.001	20	-	-	-	50	0.0002	D/S/G
MMBF4091	N-Ch	40	350	30	-	20	5	-	10	0.001	20	-	-	-	30	0.0002	D/S/G
MMBFJ270	P-Ch	30	225	2	15	15	0.5	-	2	0.001	15	6000	-	15000	-	-	D/S/G
MMBFJ177	P-Ch	30	225	1.5	20	15	0.8	-	2.5	0.01	15	-	-	-	300	-	D/S/G
MMBFJ176	P-Ch	30	225	2	25	15	1	-	4	0.01	15	-	-	-	250	-	D/S/G
MMBFJ271	P-Ch	30	225	6	50	15	1.5	-	4.5	0.001	15	8000	-	18000	-	-	D/S/G
MMBFJ175	P-Ch	30	225	7	60	15	3	-	6	0.01	15	-	-	-	125	-	D/S/G
MMBF5460	P-Ch	40	225	1	5	15	0.75	-	6	1	15	1	-	4	-	-	D/S/G
MMBF5461	P-Ch	40	225	2	9	15	1	-	7.5	1	15	1.5	-	5	-	-	D/S/G
MMBF5462	P-Ch	40	225	4	16	15	1.8	-	9	1	15	2	-	6	-	-	D/S/G
<b>SuperSOT™-3</b>																	
MMBF5434	N-Ch	25	350	30	-	15	1	-	4	0.003	5	-	-	-	-	-	D/S/G
MMBFJ108	N-Ch	25	350	80	-	15	3	-	10	0.01	15	-	-	-	8	-	D/S/G
<b>SOT-223</b>																	
JFTJ105	N-Ch	25	1000	500	-	15	4.5	-	10	1	5	-	-	-	3	0.003	S/G/D
<b>TO-92S</b>																	
KSK161	N-Ch	18	200	1	10	10	0.4	-	4	1	10	-	-	-	-	-	D/S/G
KSK596	N-Ch	20	100	0.1	0.35	5	-	0.6	1.5	1	5	-	-	-	-	-	S/G/D
<b>TO-92</b>																	
FJN598J	N-Ch	20	150	0.1	0.35	5	-	0.6	1.5	1	5	-	-	-	-	-	S/G/D
2N5484	N-Ch	25	350	1	5	15	0.3	-	3	0.01	15	3	-	6	-	-	D/S/G
J210	N-Ch	25	350	2	15	15	-	-	-	-	-	4	-	12	-	-	D/S/G
2N5485	N-Ch	25	350	4	10	15	0.5	-	4	0.01	15	3.5	-	7	-	-	D/S/G
PN5434	N-Ch	25	350	30	-	15	1	-	4	0.003	5	-	-	-	10	0.0002	D/S/G
J211	N-Ch	25	350	7	20	15	2.5	-	4.5	0.001	15	6	-	12	-	-	D/S/G
J300	N-Ch	25	350	6	30	10	-	-	-	-	-	-	-	-	-	-	D/S/G
2N5486	N-Ch	25	350	8	20	15	2	-	6	0.01	15	4	-	8	-	-	D/S/G
J212	N-Ch	25	350	15	40	15	4	-	6	0.001	15	7	-	12	-	-	D/S/G
2N3819	N-Ch	25	350	2	20	15	-	-	8	0.002	15	-	-	-	-	-	D/S/G
MPF102	N-Ch	25	350	2	20	15	-	-	8	0.002	15	2	-	7.5	-	-	D/S/G
PN5432	N-Ch	25	350	150	-	15	4	-	10	0.003	5	-	-	-	5	0.0002	D/S/G
2N5555	N-Ch	25	350	15	-	15	-	-	-	-	-	-	-	-	150	0.01	D/S/G
J110	N-Ch	25	625	10	-	15	0.5	-	4	0.01	15	-	-	-	18	-	D/S/G
J309	N-Ch	25	625	12	30	10	1	-	4	0.001	10	10	-	20	-	-	D/S/G
J107	N-Ch	25	625	100	-	15	0.5	-	4.5	1	5	-	-	-	8	0.003	D/S/G
2N5457	N-Ch	25	625	1	5	15	0.5	-	6	0.01	15	1	-	5	-	-	D/S/G

# JFETs (continued)

Products	Config-uration	BV <sub>gss</sub> (V)	P <sub>o</sub> (mW)	I <sub>oss</sub>			V <sub>gs(off)</sub>					G <sub>fs</sub>			R <sub>DS</sub> (Ω)	I <sub>b(off)</sub> (μA)	Lead array (1/2/3)
				Min (mA)	Max (mA)	@ V <sub>DS</sub> (V)	Min (V)	Typ (V)	Max (V)	@ I <sub>b</sub> (μA)	@ V <sub>DS</sub> (V)	Min (mmhos)	Typ (mmhos)	Max (mmhos)			
<b>TO-92 (continued)</b>																	
J109	N-Ch	25	625	40	-	15	2	-	6	0.01	15	-	-	-	12	-	D/S/G
J106	N-Ch	25	625	200	-	15	2	-	6	1	5	-	-	-	6	0.003	D/S/G
J310	N-Ch	25	625	24	60	10	2	-	6.5	0.001	10	8	-	18	-	-	D/S/G
2N5458	N-Ch	25	625	2	9	15	1	-	7	0.01	15	1.5	-	5.5	-	-	D/S/G
2N5459	N-Ch	25	625	4	16	15	2	-	8	0.01	15	2	-	6	-	-	D/S/G
J108	N-Ch	25	625	80	-	15	3	-	10	0.01	15	-	-	-	8	-	D/S/G
J105	N-Ch	25	625	500	-	15	4.5	-	10	1	5	-	-	-	3	0.003	D/S/G
BF246B	N-Ch	25	625	60	140	15	0.6	-	14.5	0.01	15	8	-	-	-	-	D/G/S
BF247A	N-Ch	25	625	60	140	15	0.6	-	14.5	0.01	15	8	-	-	-	-	G/S/D
PF5301-2	N-Ch	30	350	0.03	0.5	10	1.7	-	3	0.001	10	0.07	-	0.3	-	-	D/S/G
J305	N-Ch	30	350	1	8	15	0.5	-	3	0.001	15	-	-	-	-	-	D/S/G
2N5952	N-Ch	30	350	4	8	15	1.3	-	3.5	0.1	15	2	-	6.5	-	-	G/S/D
2N5246	N-Ch	30	350	1.5	7	15	0.5	-	4	0.01	15	-	-	-	-	-	G/S/D
TIS75	N-Ch	30	350	8	80	15	0.8	-	4	0.004	20	-	-	-	60	0.002	G/S/D
2N5951	N-Ch	30	350	7	13	15	2	-	5	0.1	15	-	-	-	-	-	G/S/D
2N5245	N-Ch	30	350	5	15	15	1	-	6	0.01	15	4.5	-	11	-	-	G/S/D
J304	N-Ch	30	350	5	15	15	2	-	6	0.001	15	-	-	-	-	-	D/S/G
PN4416	N-Ch	30	350	5	15	15	2.5	-	6	0.001	15	-	-	-	-	-	D/S/G
2N5950	N-Ch	30	350	10	15	15	2.5	-	6	0.1	15	-	-	-	-	-	G/S/D
TIS74	N-Ch	30	350	20	100	15	2	-	6	0.004	15	-	-	-	40	0.002	G/S/D
BF256A	N-Ch	30	350	3	7	15	0.5	-	7.5	0.2	15	4.5	-	-	-	-	G/S/D
BF256B	N-Ch	30	350	6	13	15	0.5	-	7.5	0.2	15	4.5	-	-	-	-	G/S/D
BF256C	N-Ch	30	350	11	18	15	0.5	-	7.5	0.2	15	4.5	-	-	-	-	G/S/D
BF244A	N-Ch	30	350	2	6.5	15	0.5	-	8	0.01	15	-	-	-	-	-	D/G/S
BF245A	N-Ch	30	350	2	6.5	15	0.5	-	8	0.01	15	3	-	6.5	-	-	G/S/D
BF244B	N-Ch	30	350	6	15	15	0.5	-	8	0.01	15	-	-	-	-	-	D/G/S
BF245B	N-Ch	30	350	6	15	15	0.5	-	8	0.01	15	3	-	6.5	-	-	G/S/D
2N5247	N-Ch	30	350	8	24	15	1	-	8	0.01	15	-	-	-	-	-	G/S/D
BF244C	N-Ch	30	350	12	25	15	0.5	-	8	0.01	15	-	-	-	-	-	D/G/S
BF245C	N-Ch	30	350	12	25	15	0.5	-	8	0.01	15	3	-	6.5	-	-	G/S/D
TIS73	N-Ch	30	350	50	-	15	4	-	10	0.004	15	-	-	-	25	0.002	G/S/D
PN4393	N-Ch	30	625	5	30	20	0.5	-	3	0.001	20	-	-	-	100	0.0001	D/S/G
PN4302	N-Ch	30	625	0.5	5	20	-	-	4	0.01	20	1	-	-	-	-	D/S/G
PN4861	N-Ch	30	625	8	80	15	0.8	-	4	0.0005	15	-	-	-	60	0.00025	D/S/G
PN4392	N-Ch	30	625	25	75	20	2	-	5	0.001	20	-	-	-	60	0.0001	D/S/G
PN4303	N-Ch	30	625	4	10	20	-	-	6	0.01	20	2	-	-	-	-	D/S/G
2N5639	N-Ch	30	625	25	-	20	-	-	8	-	-	-	-	-	60	0.001	D/S/G
PN4391	N-Ch	30	625	50	150	20	4	-	10	0.001	20	-	-	-	30	0.0001	D/S/G
2N5638	N-Ch	30	625	50	-	20	-	-	12	-	-	-	-	-	30	0.001	D/S/G
BF246A	N-Ch	30	625	30	80	15	0.6	-	14.5	0.01	15	8	-	-	-	-	D/G/S
2N5953	N-Ch	30	-	2.5	5	15	0.8	-	3	0.1	15	-	-	-	-	-	G/S/D
J113	N-Ch	35	625	2	-	15	0.5	-	3	1	5	-	-	-	100	0.001	D/S/G
J112	N-Ch	35	625	5	-	15	1	-	5	1	5	-	-	-	50	0.001	D/S/G
J111	N-Ch	35	625	20	-	15	3	-	10	1	5	-	-	-	30	0.001	D/S/G
PN4117	N-Ch	40	350	0.03	0.09	10	0.6	-	1.8	0.001	10	0.07	-	0.21	-	-	D/S/G
PN4117A	N-Ch	40	350	0.03	0.09	10	0.6	-	1.8	0.001	10	0.07	-	0.21	-	-	D/S/G
PN4118	N-Ch	40	350	0.08	0.24	10	1	-	3	0.001	10	0.08	-	0.25	-	-	D/S/G
PN4119	N-Ch	40	350	0.2	0.6	10	2	-	6	0.001	10	0.1	-	0.33	-	-	D/S/G
J201	N-Ch	40	625	0.2	1	20	0.3	-	1.5	0.01	20	-	-	-	-	-	D/S/G
PF5102	N-Ch	40	625	4	20	15	0.7	-	1.6	0.001	15	3.5	-	-	-	-	D/S/G
PF5103	N-Ch	40	625	10	40	15	1.2	-	2.7	0.001	15	7.5	-	-	-	-	D/S/G
J202	N-Ch	40	625	0.9	4.5	20	0.8	-	4	0.01	20	-	-	-	-	-	D/S/G
PN4093	N-Ch	40	625	8	-	20	1	-	5	0.001	20	-	-	-	80	0.0002	D/S/G
PN4092	N-Ch	40	625	15	-	20	2	-	7	0.001	20	-	-	-	50	0.0002	D/S/G
U1898	N-Ch	40	625	15	-	20	2	-	7	0.001	20	-	-	-	50	-	D/S/G
PN4091	N-Ch	40	625	30	-	20	5	-	10	0.001	20	-	-	-	30	0.0002	D/S/G
U1897	N-Ch	40	625	30	-	20	5	-	10	0.001	20	-	-	-	30	-	D/S/G
KSK30	N-Ch	50	100	0.3	6.5	10	0.4	-	5	0.1	10	-	-	-	-	-	S/G/D
KSK117	N-Ch	50	300	0.6	14	10	0.2	-	1.5	0.1	10	-	-	-	-	-	D/S/G
2N3820	P-Ch	20	350	0.3	15	10	-	-	8	0.01	10	0.8	-	5	-	-	D/G/S
J270	P-Ch	30	350	2	15	15	0.5	-	2	0.001	15	6	-	15	-	-	D/G/S
J177	P-Ch	30	350	1.5	20	15	0.8	-	2.5	0.01	15	-	-	-	300	-	D/G/S
J176	P-Ch	30	350	2	25	15	1	-	4	0.01	15	-	-	-	250	-	D/G/S
J271	P-Ch	30	350	6	50	15	1.5	-	4.5	0.001	15	8	-	18	-	-	D/G/S
P1087	P-Ch	30	350	5	-	20	-	-	5	1	15	-	-	-	150	0.01	D/S/G
J175	P-Ch	30	350	7	60	15	3	-	6	0.01	15	-	-	-	125	-	D/G/S
P1086	P-Ch	30	350	10	-	20	-	-	10	1	15	-	-	-	75	0.01	D/S/G
J174	P-Ch	30	350	20	100	15	5	-	10	0.01	15	-	-	-	85	-	D/G/S
2N5460	P-Ch	40	350	1	5	15	0.75	-	6	1	15	1	-	4	-	-	D/S/G
2N5461	P-Ch	40	350	2	9	15	1	-	7.5	1	15	1.5	-	5	-	-	D/S/G
2N5462	P-Ch	40	350	4	16	15	1.8	-	9	1	15	2	-	6	-	-	D/S/G

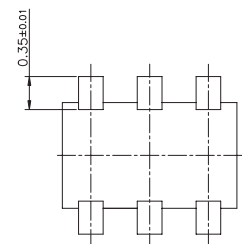
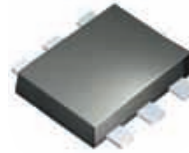
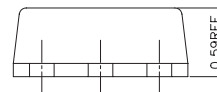
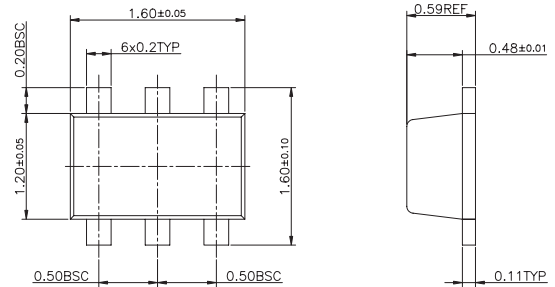
## Surface Mount

### SOT-623F



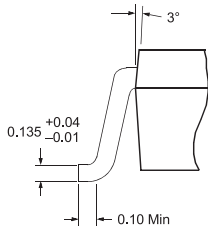
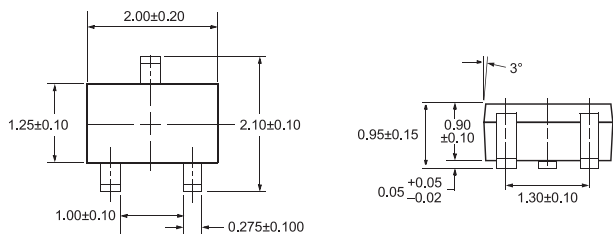
Dimensions in Millimeters

### SOT-563F



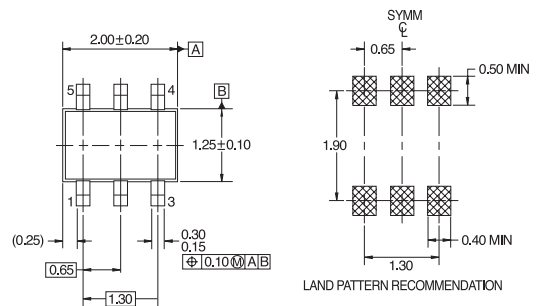
Dimensions in Millimeters

### SOT-323

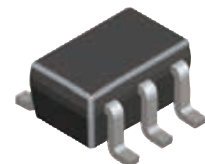
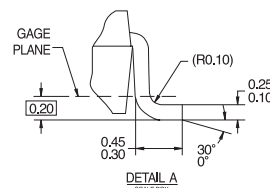
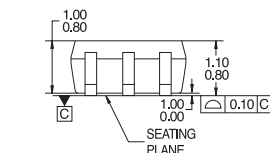
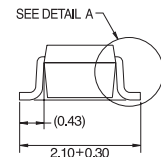


Dimensions in Millimeters

### SC70-6



LAND PATTERN RECOMMENDATION

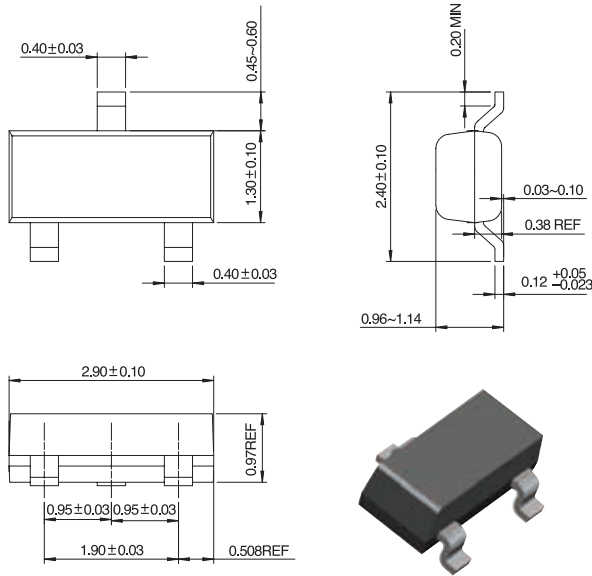


Dimensions in Millimeters

# Packages (continued)

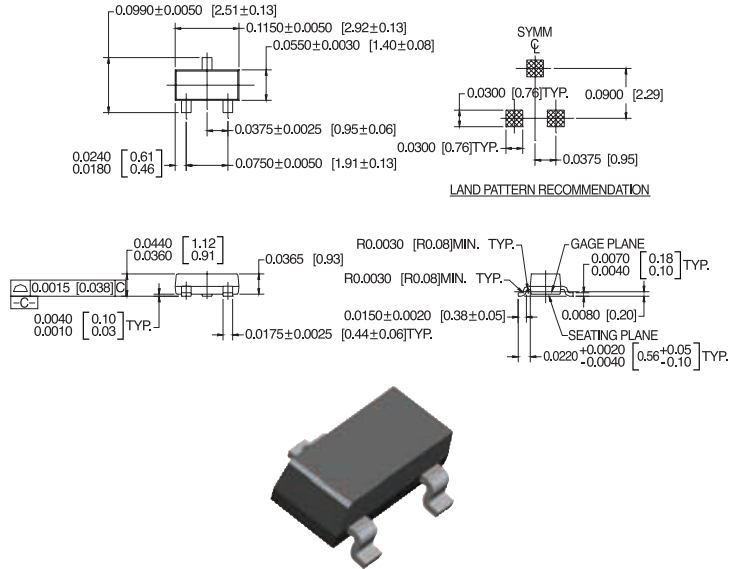
## Surface Mount (continued)

### SOT-23



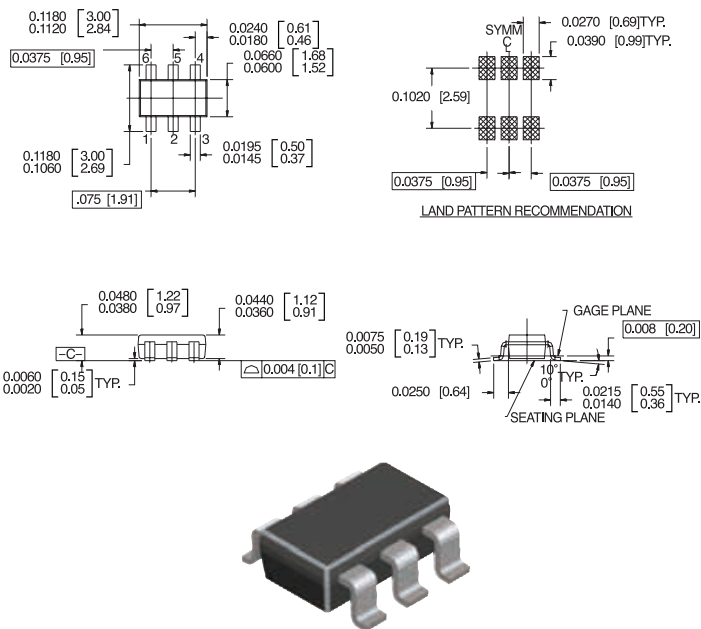
Dimensions in Millimeters

### SuperSOT™-3



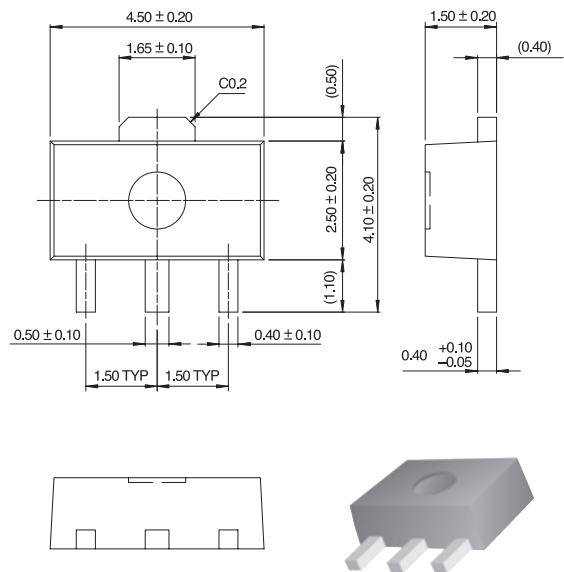
Dimensions in Inches [Millimeters]

### SuperSOT™-6



Dimensions in Inches [Millimeters]

### SOT-89



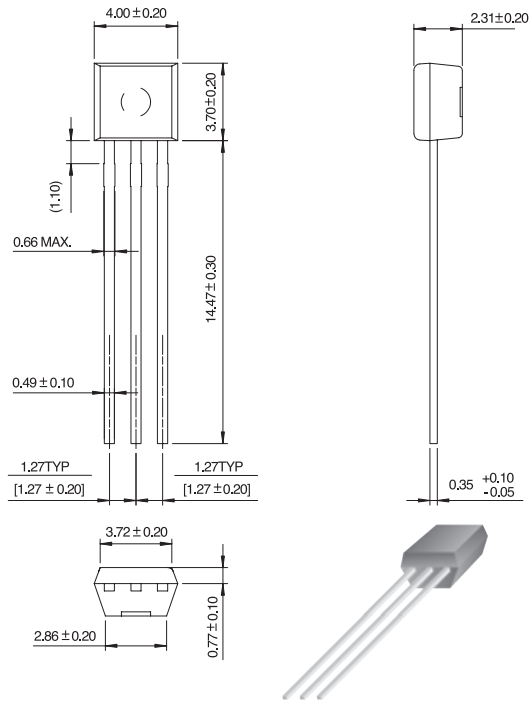
Dimensions in Millimeters



# Packages (continued)

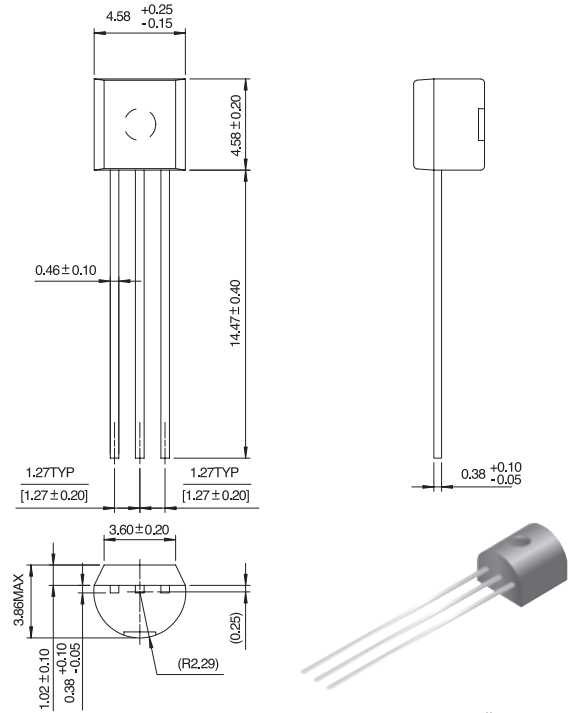
## Through Hole

### TO-92S



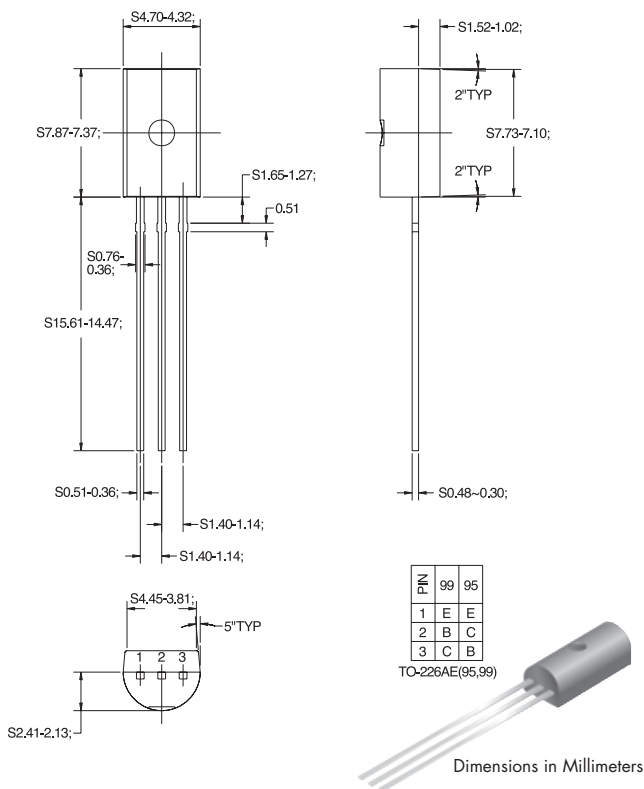
Dimensions in Millimeters

### TO-92



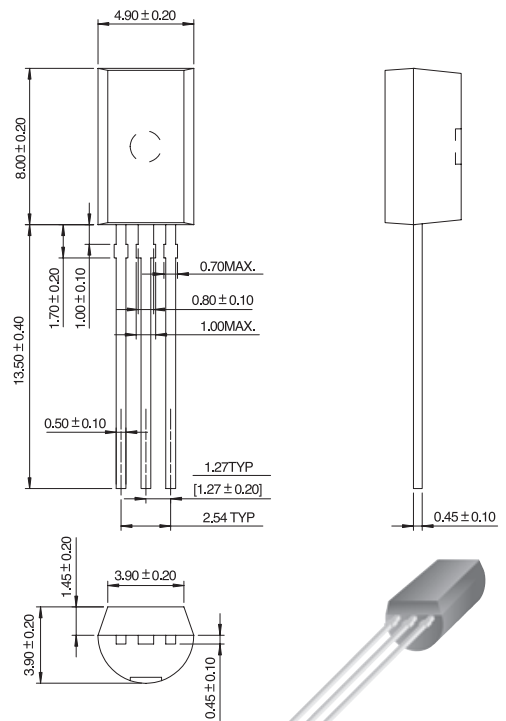
Dimensions in Millimeters

### TO-226AE



Dimensions in Millimeters

### TO-92L



Dimensions in Millimeters

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