



6 Lake Street, Lawrence, MA 01841
1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
Website: <http://www.microsemi.com>

TECHNICAL DATA SHEET

NPN SILICON SWITCHING TRANSISTOR Qualified per MIL-PRF-19500/301

DEVICES

2N918 2N918UB

LEVELS

**JAN
JANTX
JANTXV**

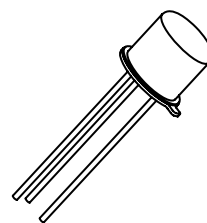
ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Base Voltage	V_{CBO}	30	Vdc
Emitter-Base Voltage	V_{EBO}	3.0	Vdc
Collector Current	I_C	50	mAdc
Total Power Dissipation @ $T_A = +25^\circ\text{C}$ ⁽¹⁾	P_T	200	mW
Operating & Storage Junction Temperature Range	T_{op} & T_{stg}	-65 to +200	$^\circ\text{C}$

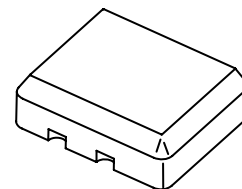
1) Derate linearly 1.14mW/ $^\circ\text{C}$ above $T_A > 25^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage $I_C = 3\text{mAdc}$	$V_{(BR)CEO}$	15		Vdc
Collector-Base Cutoff Current $V_{CB} = 30\text{Vdc}$ $V_{CB} = 25\text{Vdc}$	I_{CBO}		1.0 10	μAdc ηAdc
Emitter-Base Cutoff Current $V_{EB} = 3.0\text{Vdc}$ $V_{EB} = 2.5\text{Vdc}$	I_{EBO}		10 10	μAdc ηAdc
Forward-Current Transfer Ratio $I_C = 0.5\text{mAdc}$, $V_{CE} = 10\text{Vdc}$ $I_C = 3.0\text{mAdc}$, $V_{CE} = 10\text{Vdc}$ $I_C = 10\text{mAdc}$, $V_{CE} = 10\text{Vdc}$	h_{FE}	10 20 20	200	
Collector-Emitter Saturation Voltage $I_C = 10\text{mAdc}$, $I_B = 1.0\text{mAdc}$	$V_{CE(sat)}$		0.4	Vdc
Base-Emitter Voltage $I_C = 10\text{mAdc}$, $I_B = 1.0\text{mAdc}$	$V_{BE(sat)}$		1.0	Vdc



**TO-72
2N918**



**3 PIN
2N918UB**



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DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Magnitude of Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 4\text{mA dc}$, $V_{CE} = 10\text{V dc}$, $f = 100\text{MHz}$	$ h_{fe} $	6.0	18	
Output Capacitance $V_{CB} = 0\text{V dc}$, $I_E = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$ $V_{CB} = 10\text{V dc}$, $I_E = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$	C_{obo1} C_{obo2}		3.0 1.7	pF
Input Capacitance $V_{EB} = 0.5\text{V dc}$, $I_C = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$	C_{ibo}		1.7	pF
Noise Figure (1) $V_{CE} = 6\text{V}$, $I_C = 1.0\text{mA}$, $f = 60\text{MHz}$ $g_s = 2.5\text{mmho}$	NF		6.0	dB
Small-Signal Power Gain (1) $V_{CB} = 12\text{V}$, $I_C = 6.0\text{mA}$, $f = 200\text{MHz}$	G_{pe}	15		dB
Collector-Base Time Constant (1) $V_{CB} = 10\text{V}$, $I_E = -4.0\text{mA}$, $f = 79.8\text{MHz}$	$R_{b'CC}$		25	ps
Oscillator Power Output (1) $V_{CB} = 1.5\text{V}$, $I_C = 8.0\text{mA}$, $f \geq 500\text{MHz}$	P_o	30		mW
Collector Efficiency $V_{CB} = 15\text{V}$, $I_C = 8.0\text{mA}$, $f > 500\text{MHz}$	n	25		%

NOTES:

(1) For more detail see MIL-PRF-19500/301

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