

2N6546
2N6547

**NPN SILICON
POWER TRANSISTOR**



TO-3 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N6546, 2N6547 types are NPN Silicon Power Transistors designed for high voltage, high current, applications.

MARKING: FULL PART NUMBER

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

	SYMBOL	2N6546	2N6547	UNITS
Collector-Emitter Voltage	V_{CEV}	650	850	V
Collector-Emitter Voltage	V_{CEX}	350	450	V
Collector-Emitter Voltage	V_{CEO}	300	400	V
Emitter-Base Voltage	V_{EBO}		9.0	V
Continuous Collector Current	I_C		15	A
Peak Collector Current	I_{CM}		30	A
Continuous Emitter Current	I_E		25	A
Peak Emitter Current	I_{EM}		50	A
Continuous Base Current	I_B		10	A
Peak Base Current	I_{BM}		20	A
Power Dissipation	P_D		175	W
Power Dissipation, $T_C=100^{\circ}\text{C}$	P_D		100	W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200	$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}		1.0	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N6546		2N6547		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=\text{Rated } V_{CEV}, V_{BE}=1.5\text{V}$	-	1.0	-	1.0	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CEV}, V_{BE}=1.5\text{V}, T_C=100^{\circ}\text{C}$	-	4.0	-	4.0	mA
I_{CER}	$V_{CE}=\text{Rated } V_{CEV}, R_{BE}=50\Omega, T_C=100^{\circ}\text{C}$	-	5.0	-	5.0	mA
I_{EBO}	$V_{EB}=9.0\text{V}$	-	1.0	-	1.0	mA
BV_{CEX}	$V_{CL}=\text{Rated } V_{CEX}, I_C=8.0\text{A}, T_C=100^{\circ}\text{C}$	350	-	450	-	V
BV_{CEX}	$V_{CL}=\text{Rated } V_{CEO}-100\text{V}, I_C=15\text{A}, T_C=100^{\circ}\text{C}$	200	-	300	-	V
BV_{CEO}	$I_C=100\text{mA}$	300	-	400	-	V
$V_{CE(\text{SAT})}$	$I_C=10\text{A}, I_B=2.0\text{A}$	-	1.5	-	1.5	V
$V_{CE(\text{SAT})}$	$I_C=10\text{A}, I_B=2.0\text{A}, T_C=100^{\circ}\text{C}$	-	2.5	-	2.5	V
$V_{CE(\text{SAT})}$	$I_C=15\text{A}, I_B=3.0\text{A}$	-	5.0	-	5.0	V
$V_{BE(\text{SAT})}$	$I_C=10\text{A}, I_B=2.0\text{A}$	-	1.6	-	1.6	V
$V_{BE(\text{SAT})}$	$I_C=10\text{A}, I_B=2.0\text{A}, T_C=100^{\circ}\text{C}$	-	1.6	-	1.6	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{A}$	12	60	12	60	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=10\text{A}$	6.0	30	6.0	30	

R2 (12-December 2011)

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ELECTRICAL CHARACTERISTICS - Continued: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
f_t	$V_{CE}=10\text{V}$, $I_C=500\text{mA}$, $f=1.0\text{MHz}$	6.0		28	MHz
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1.0\text{MHz}$	125		500	pF
$I_{S/b}$	$V_{CE}=100\text{V}$, $t=1.0\text{s}$	0.2			A

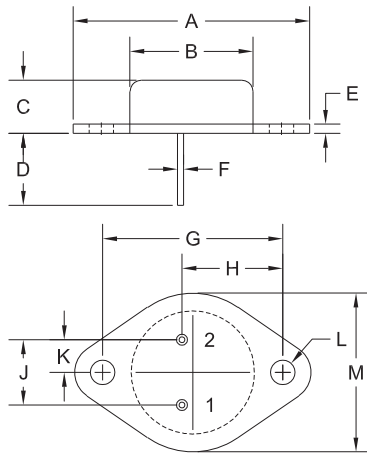
Resistive Load

t_d	$V_{CC}=250\text{V}$, $I_C=10\text{A}$, $I_{B1}=I_{B2}=2.0\text{A}$, $t_p=100\mu\text{s}$, Duty Cycles $\leq 2.0\%$		0.05	μs
t_r			1.0	μs
t_s			4.0	μs
t_f			0.7	μs

Inductive Load (Clamped)

t_s	$V_{CL}=\text{Rated } V_{CEX}$, $I_C=10\text{A}$, $I_{B1}=2.0\text{A}$, $V_{BE}=5.0\text{V}$, $T_C=100^\circ\text{C}$		5.0	μs
t_f			1.5	μs
t_s	$V_{CL}=\text{Rated } V_{CEX}$, $I_C=10\text{A}$, $I_{B1}=2.0\text{A}$, $V_{BE}=5.0\text{V}$, $T_C=25^\circ\text{C}$	2.0		μs
t_f		0.9		μs

TO-3 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.516	1.573	38.50	39.96
B (DIA)	0.748	0.875	19.00	22.23
C	0.250	0.450	6.35	11.43
D	0.433	0.516	11.00	13.10
E	0.054	0.065	1.38	1.65
F	0.035	0.045	0.90	1.15
G	1.177	1.197	29.90	30.40
H	0.650	0.681	16.50	17.30
J	0.420	0.440	10.67	11.18
K	0.205	0.225	5.21	5.72
L (DIA)	0.151	0.172	3.84	4.36
M	0.984	1.050	25.00	26.67

TO-3 (REV: R2)

R2

LEAD CODE:

- 1) Base
- 2) Emitter
- Case) Collector

MARKING:

FULL PART NUMBER

R2 (12-December 2011)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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