

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors
www.centrasemi.com

2N6546
2N6547

NPN SILICON TRANSISTOR

JEDEC TO-3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6546, 2N6547 types are Silicon NPN Triple Diffused Mesa Transistors designed for high voltage, high current, high speed switching applications.

MAXIMUM RATINGS (T_C=25°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
Collector Current	I _C	15		A
Peak Collector Current	I _{CM}	30		A
Emitter Current	I _E	25		A
Peak Emitter Current	I _{EM}	50		A
Base Current	I _B	10		A
Peak Emitter Current	I _{BM}	20		A
Power Dissipation	P _D	175		W
Power Dissipation (T _C =100°C)	P _D	100		W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +200		°C
Thermal Resistance	θ _{JC}	1.0		°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

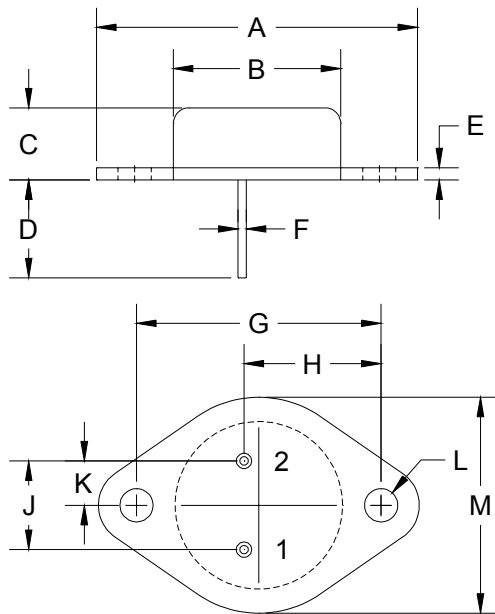
SYMBOL	TEST CONDITIONS	2N6546		2N6547		UNITS
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =Rated V _{CEV} , V _{BE} (OFF)=1.5V		1.0	1.0	1.0	mA
I _{CEV}	V _{CE} = Rated V _{CEV} , V _{BE} (OFF)=1.5V, T _C =100°C		4.0	4.0	4.0	mA
I _{CER}	V _{CE} = Rated V _{CEV} , R _{BE} =50Ω, T _C =100°C		5.0	5.0	5.0	mA
I _{EBO}	V _{EB} =9.0V		1.0	1.0	1.0	mA
BV _{CEX}	V _{CL} = Rated V _{CEX} , I _C =8.0A, T _C =100°C	350		450		V
BV _{CEX}	V _{CL} = Rated V _{CEO} -100V, I _C =15A, T _C =100°C	200		300		V
BV _{CEO}	I _C =100mA	300		400		V
V _{CE} (SAT)	I _C =10A, I _B =2.0A		1.5		1.5	V
V _{CE} (SAT)	I _C =10A, I _B =2.0A, T _C =100°C		2.5		2.5	V
V _{CE} (SAT)	I _C =15A, I _B =3.0A		5.0		5.0	V
V _{BE} (SAT)	I _C =10A, I _B =2.0A		1.6		1.6	V
V _{BE} (SAT)	I _C =10A, I _B =2.0A, T _C =100°C		1.6		1.6	V
h _{FE}	V _{CE} =2.0V, I _C =5.0A	12	60	12	60	
h _{FE}	V _{CE} =2.0V, I _C =10A	6.0	30	6.0	30	

(SEE REVERSE SIDE)

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
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
t_{on} (Resistive Load)	$V_{CC}=250\text{V}, I_C=10\text{A}, I_{B1}=I_{B2}=2.0\text{A}$			1.05	μs
t_{off} (Resistive Load)	$V_{CC}=250\text{V}, I_C=10\text{A}, I_{B1}=I_{B2}=2.0\text{A}$			4.7	μs
t_{off} (Inductive Load)	$V_{CL} = \text{Rated } V_{CEX}, I_C=10\text{A}, I_{B1}=2.0\text{A}, V_{BE(OFF)}=5.0\text{V}, T_C=100^{\circ}\text{C}$			6.5	μs
t_{off} (Inductive Load)	$V_{CL} = \text{Rated } V_{CEX}, I_C=10\text{A}, I_{B1}=2.0\text{A}, V_{BE(OFF)}=5.0\text{V}, T_C=25^{\circ}\text{C}$		2.09		μs

TO-3 PACKAGE - MECHANICAL OUTLINE



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

Transistor

Lead Codes

PIN 1	PIN 2	CASE
B	E	C

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