Central™
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Manufacturers of World Class Discrete Semiconductors
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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)

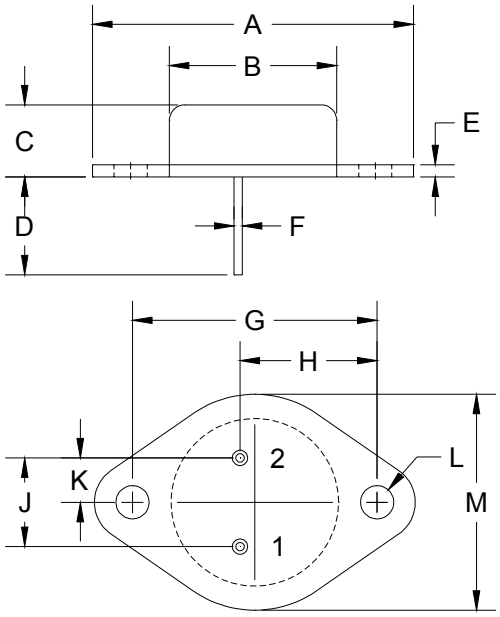
		2N6546		2N6547		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNITS
I_{CEV}	V_{CE}=Rated V_{CEV}, $V_{BE(OFF)}$=1.5V		1.0		1.0	mA
I_{CEV}	V_{CE}= Rated V_{CEV}, $V_{BE(OFF)}$=1.5V, T_C=100°C		4.0		4.0	mA
I_{CER}	V_{CE}= Rated V_{CEV}, R_{BE}=50Ω, T_C=100°C		5.0		5.0	mA
I_{EBO}	V_{EB}=9.0V		1.0		1.0	mA
BV_{CEX}	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°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
f_T	V_{CE}=10V, I_C=500mA, f=1.0MHz	6.0		28	MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz	125		500	pF
$I_{s/b}$	V_{CE}=100V, t=1.0s	0.2			A
t_{on} (Resistive Load)	V_{CC}=250V, I_C=10A, I_{B1}=I_{B2}=2.0A			1.05	µs
t_{off} (Resistive Load)	V_{CC}=250V, I_C=10A, I_{B1}=I_{B2}=2.0A			4.7	µs
t_{off} (Inductive Load)	V_{CL}= Rated V_{CEX}, I_C=10A, I_{B1}=2.0A, $V_{BE(OFF)}$=5.0V, T_C=100°C			6.5	µs
t_{off} (Inductive Load)	V_{CL}= Rated V_{CEX}, I_C=10A, I_{B1}=2.0A, $V_{BE(OFF)}$=5.0V, T_C=25°C		2.09		µs

TO-3 PACKAGE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)

Lead Codes

	PIN 1	PIN 2	CASE
Transistor	B	E	C

R2

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