



Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

## PNP SILICON PLANAR POWER TRANSISTORS

MJ2955



TO-3  
Metal Can Package  
RoHS Compliant

**Applications :** General Purpose switching and amplifier.

### ABSOLUTE MAXIMUM RATING (AT $T_A=25^\circ\text{C}$ )

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	$V_{CBO}$	100	V
Collector Emitter Voltage	$V_{CEO}$	60	V
Collector Emitter Voltage( $R_{BE}=100\Omega$ )	$V_{CER}$	70	V
Emitter Base Voltage	$V_{EBO}$	7	V
Collector Current Continuous	$I_C$	15	A
Base Current	$I_B$	7	A
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_{tot}$	115	W
Derate Above $25^\circ\text{C}$		0.657	W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +200	$^\circ\text{C}$

### THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	1.52	$^\circ\text{C/W}$
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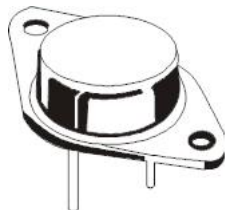
### ELECTRICAL CHARACTERISTICS ( $T = 25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}^*$	$I_C=200\text{mA}, I_B=0$	60		V
Collector Emitter Sustaining Voltage	$V_{CER(sus)}^*$	$I_C=200\text{mA}, R_{BE}=100\Omega$	70		V
Collector Cut off Current	$I_{CEX}$	$V_{CE}=100\text{V}, V_{BE}(\text{off})=1.5\text{V}$  $T = 150^\circ\text{C}$ $V_{CE}=100\text{V}, V_{BE}(\text{off})=1.5\text{V}$		1.0  5.0	mA
Collector Cut off Current	$I_{CEO}$	$V_{CE}=30\text{V}, I_B=0$		0.7	mA
Emitter Cut off Current	$I_{EBO}$	$V_{BE}=7\text{V}, I_C=0$		5.0	mA
Collector Emitter Saturation Voltage	$V_{CE(\text{Sat})}^*$	$I_C=4\text{A}, I_B=400\text{mA}$ $I_C=10\text{A}, I_B=3.3\text{A}$		1.1 3.0	V
Base Emitter on Voltage	$V_{BE(\text{on})}^*$	$I_C=4\text{A}, V_{CE}=4\text{V}$		1.5	V
DC Current Gain	$h_{FE}^*$	$I_C=4\text{A}, V_{CE}=4\text{V}$ $I_C=10\text{A}, V_{CE}=4\text{V}$	20 5	80	



SILICON PLANAR POWER TRANSISTOR

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ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C unless specified otherwise)

Second Breakdown

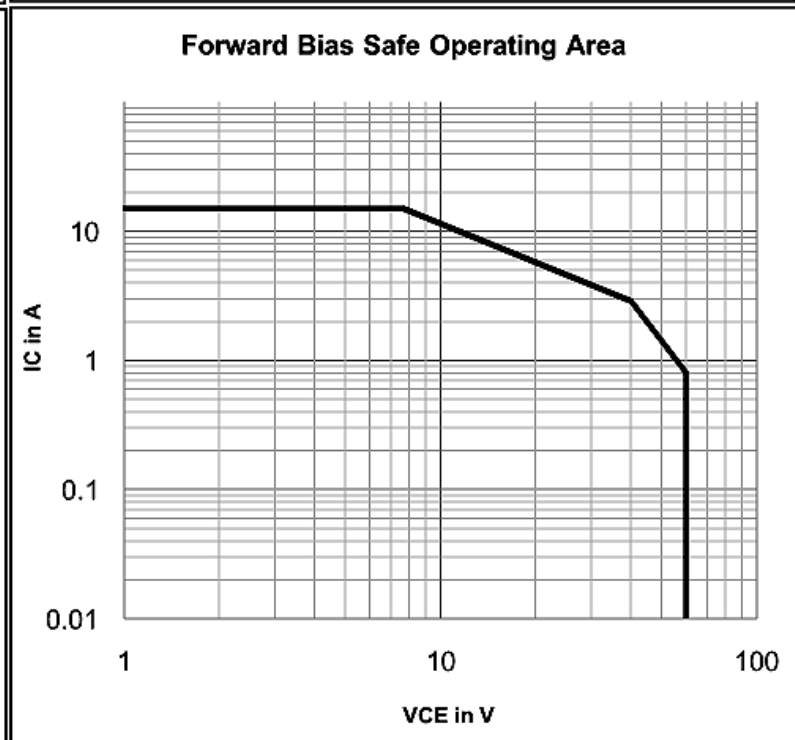
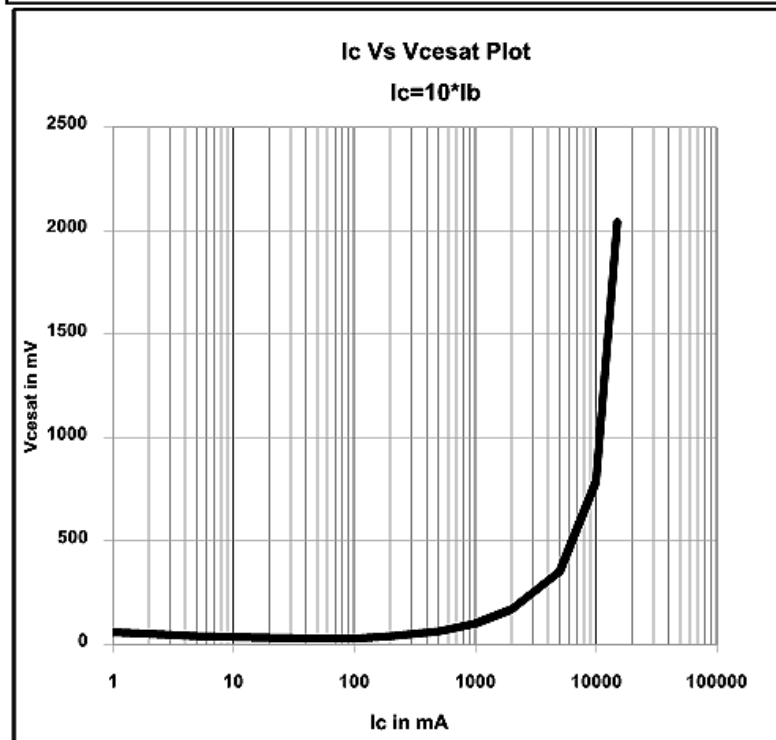
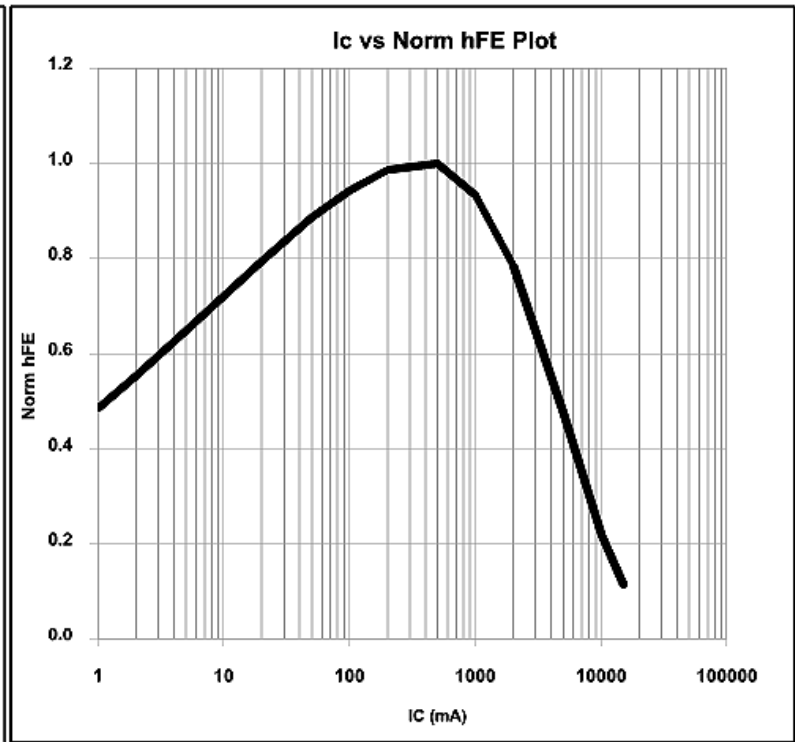
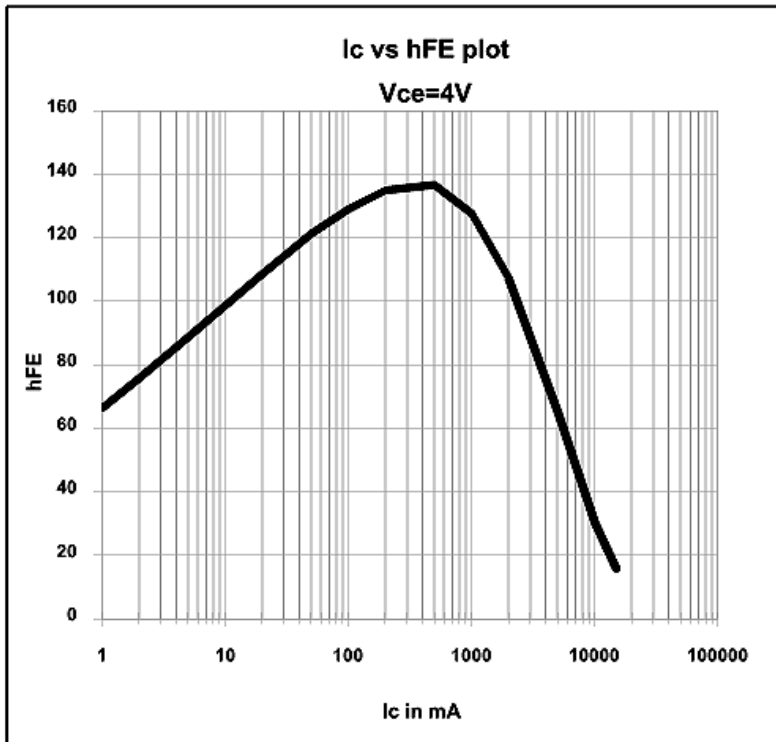
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Second Breakdown Collector Current with Base Forward Biased	$I_{BS}$	$V_{CE}=40V, t=1.0\text{ s, Nonrepetitive}$	2.87		A

Dynamic Characteristics

Current Gain - Bandwidth Product	$f_T$	$I_C=0.5A, V_{CE}=10V, f=1MHz$	2.5		MHz
Small Signal Current Gain	$h_{fe}$	$I_C=1A, V_{CE}=4V, f=1KHz$	15	120	
Small Signal Current Gain Cutoff Frequency	$f_{h_{fe}}$	$I_C=1A, V_{CE}=4V, f=1KHz$	10		KHz

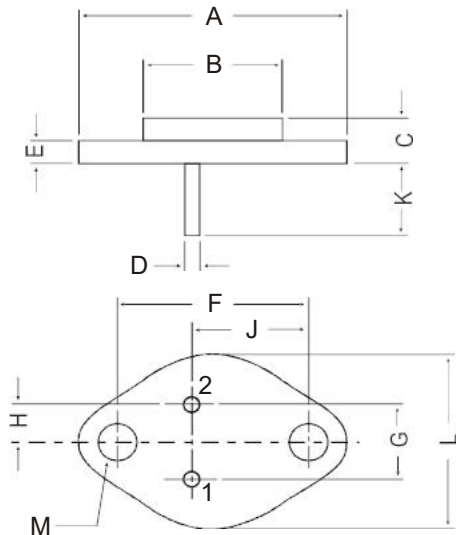
\*Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$

### CHARACTERISTICS PLOTS



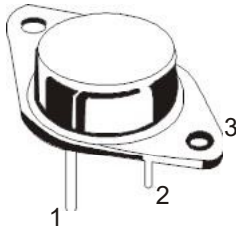


TO-3 Metal Can Package



All dimensions in mm.

DIM	MIN.	MAX.
A	—	39.37
B	—	22.22
C	6.35	8.50
D	0.96	1.09
E	—	1.77
F	29.90	30.40
G	10.69	11.18
H	5.20	5.72
J	16.64	17.15
K	11.15	12.25
L	—	26.67
M	3.84	4.19



PIN  
CONFIGURATION  
1. BASE  
2. EMITTER  
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	GrWt
TO-3	100 pcs/pkt	1.3 kg/100 pcs	12.5" x 8" x 1.8"	0.1K	17" x 11.5" x 21"	2K	27.5 kgs



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## **Notes**

### **Disclaimer**

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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