

NPN Silicon Planar Power Transistor

100V_{CB0}, 15A I_c, TO-3

multicomp PRO

**RoHS
Compliant**



General Purpose Switching and Amplifier Applications

Absolute Maximum Ratings

Description	Symbol	Value	Units
Collector Base Voltage	V _{CB0}	100	V
Collector Emitter Voltage	V _{CEO}	60	
Collector Emitter Voltage(RBE=100W)	V _{CER}	70	
Emitter Base Voltage	V _{EBO}	7	
Collector Current Continuous	I _c	15	A
Base Current	I _B	7	
Power Dissipation @ T _c =25°C Derate Above 25°C	P _{TOT}	115 0.657	W W/°C
Operating and Storage Junction Temperature Range	T _J , T _{STG}	- 65 to +200	°C

Thermal Resistance

Junction to Case	R _{th(j-c)}	1.52	°C/W
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Electrical Characteristics (T_C=25°C unless specified otherwise)

Description	Symbol	Test Condition	Min	Max	Units
Collector Emitter Sustaining Voltage	V _{CEO(sus)} *	I _c =200mA, I _B =0	60		
Collector Emitter Sustaining Voltage	V _{CER(sus)} *	I _c =200mA, R _{BE} =100Ω	70		
Collector Cut off Current	I _{CEX}	V _{CE} =100V, V _{BE} =(off)=1.5V T _c =150°C V _{CE} =100V, V _{BE} =(off)=1.5V		1	mA
				5	
Collector Cut off Current	I _{CEO}	V _{CE} =30V, I _B =0		0.7	mA
Emitter Cut off Current	I _{EBO}	V _{BE} =7V, I _c =0		5	mA
Collector Emitter Saturation Voltage	V _{CE(Sat)} *	I _c =4A, I _B =400mA I _c =10A, I _B =3.3A		1.1 3	V
Base Emitter on Voltage	V _{BE(on)} *	I _c =4A, V _{CE} =4V		1.5	V
DC Current Gain	h _{FE} *	I _c =4A, V _{CE} =4V I _c =10A, V _{CE} =4V	20	80	
			5		

*Pulse Test: Pulse Width <300ms, Duty Cycle <2%

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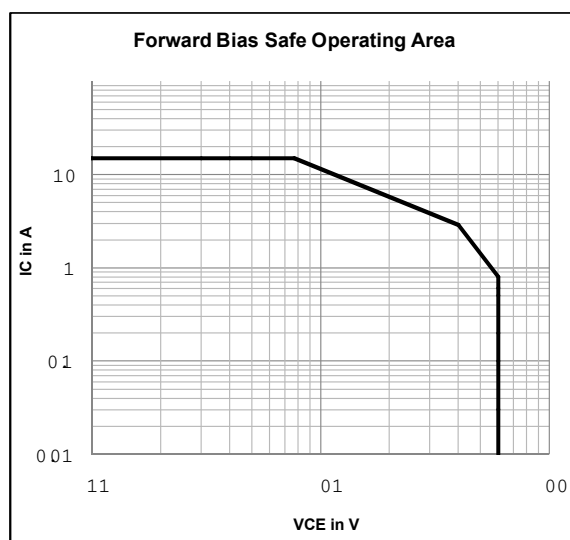
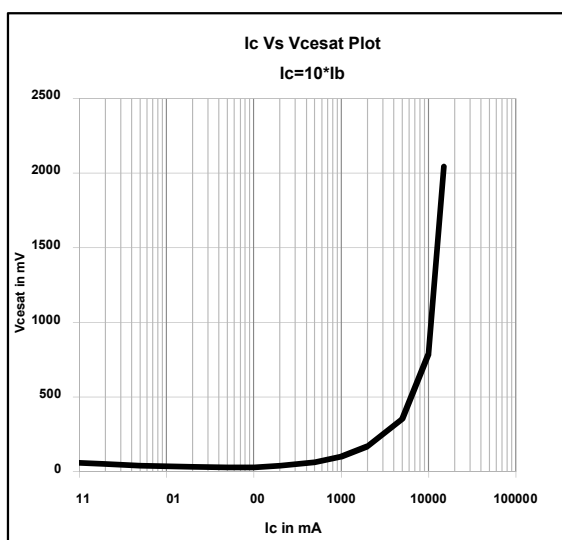
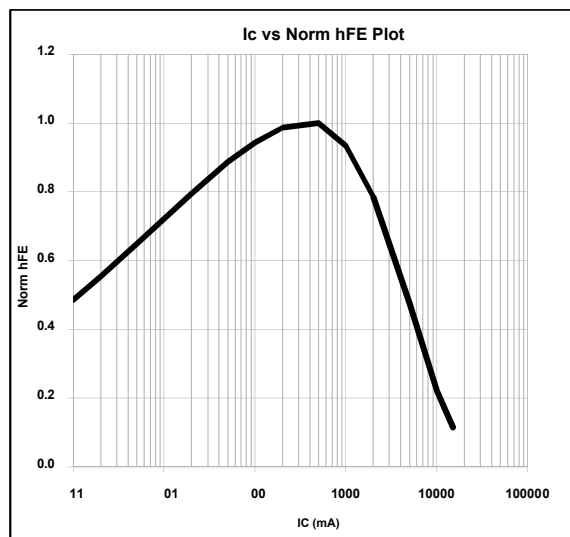
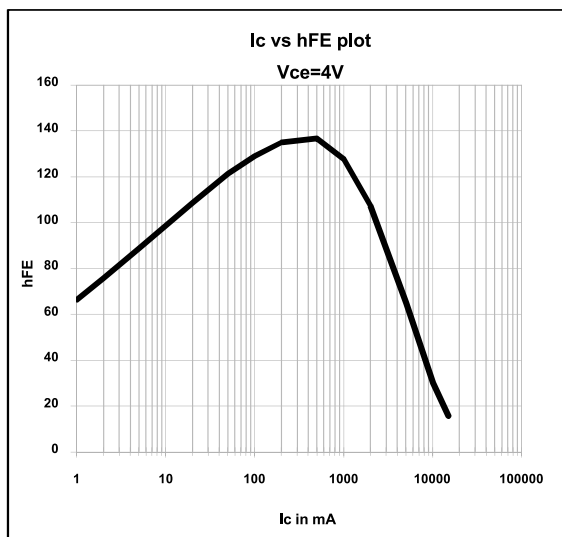
Second Breakdown

Description	Symbol	Test Condition	Min	Max	Units
Second Breakdown Collector Current with Base Forward Biased	I _{s/b}	V _{CE} =40V, t=1 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 _{HFE}	I _c =1A, V _{CE} =4V, f=1kHz	10		kHz

Characteristics Plots

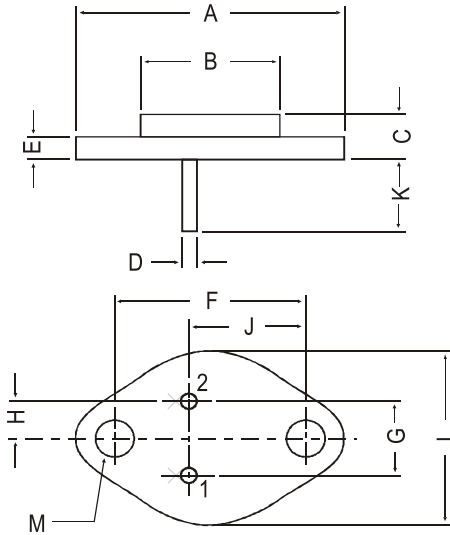


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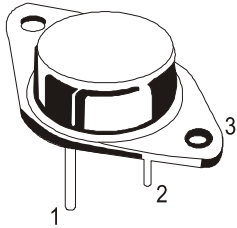
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TO-3 Metal Can Package



Dim	Min.	Max.
A	—	39.37
B	—	22.22
C	6.35	8.5
D	0.96	1.09
E	—	1.77
F	29.9	30.4
G	10.69	11.18
H	5.2	5.72
J	16.64	17.15
K	11.15	12.25
L	—	26.67
M	3.84	4.19

Dimensions : Millimetres



Pin Configuration

1. Base
2. Emitter
3. Collector

Part Number Table

Description	Part Number
NPN Silicon Planar Power Transistor, 100 V _{CEO} , 15A I _c , TO-3	2N3055

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