NPN Silicon Planar Power Transistor
100V_{CBO}, 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_{CBO}	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 @ Tc=25ºC Derate Above 25ºC	P_{TOT}	115 0.657	W W/ºC
Operating and Storage Junction Temperature Range	T_J, T_{STG}	- 65 to +200	ºC

Thermal Resistance

Junction to Case	$R_{th(j-c)}$	1.52	ºC/W

Electrical Characteristics (TC=25ºC 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 Tc=150ºC V_{CE}=100V, V_{BE}=(off)=1.5V		1 5	mA
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 5	80	

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

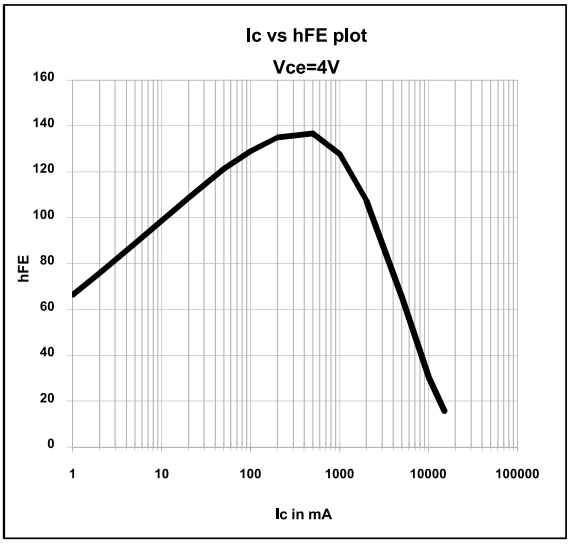
Second Breakdown

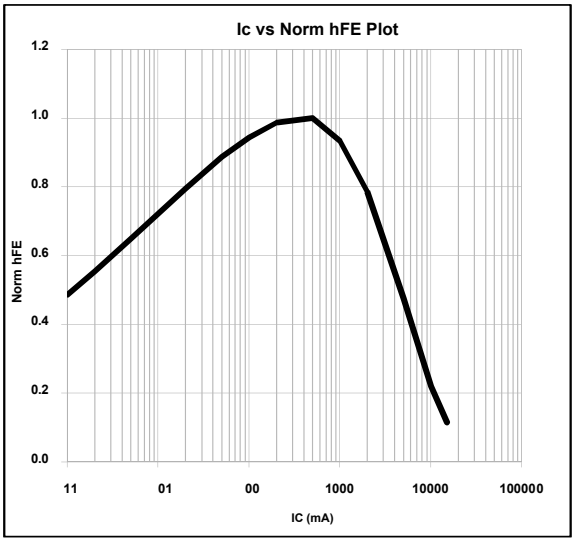
Description	Symbol	Test Condition	Min	Max	Units
Second Breakdown Collector Current with Base Forward Biased	$I_{S/b}$	V_{CE}=40V, t=1 s, Nonrepetitive	2.87		A

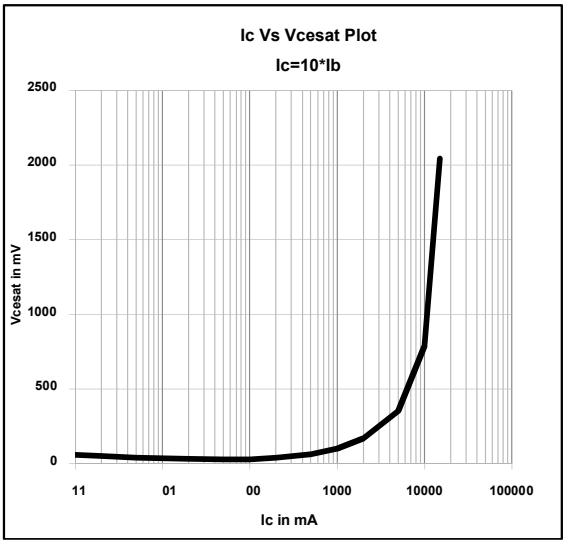
Dynamic Characteristics

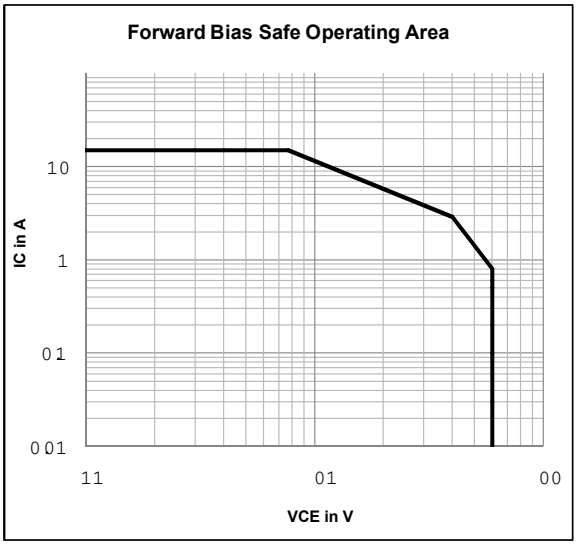
Current Gain - Bandwidth Product	f_T	I_C=0.5A, V_{CE}=10V, f=1MHz	2.5		MHz
Small Signal Current Gain	h_{FE}	I_C=1A, V_{CE}=4V, f=1kHz	15	120	
Small Signal Current Gain Cutoff Frequency	f_{HFE}	I_C=1A, V_{CE}=4V, f=1kHz	10		kHz

Characteristics Plots









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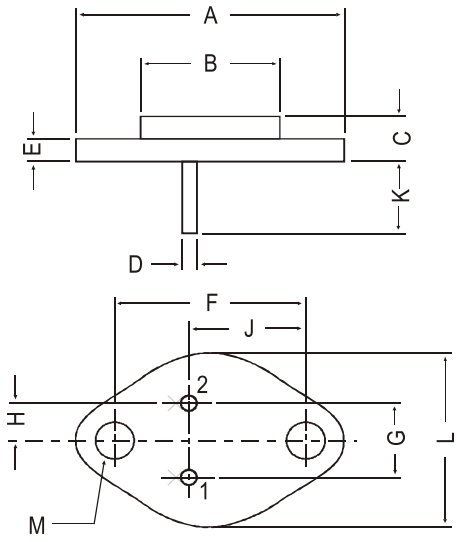
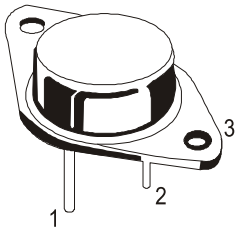
TO-3 Metal Can Package



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_{CBO}, 15A I_C, TO-3	2N3055