TAIWAN SEMICONDUCTOR

Small Signal Diode

BC337-16/25/40，BC338-16/25/40
NPN Transistor Preliminary

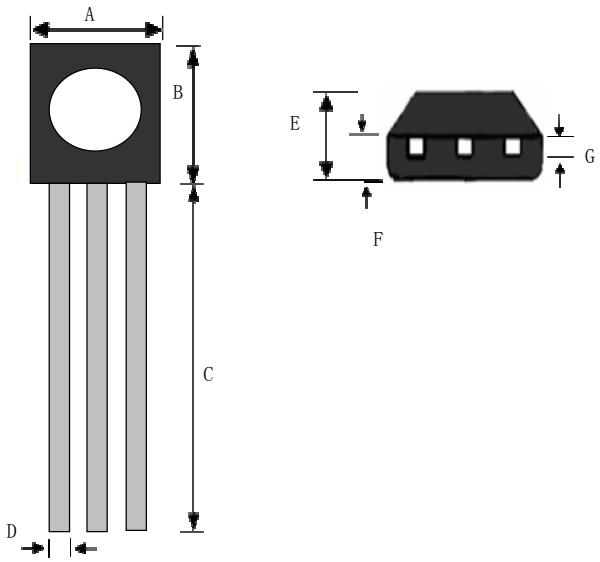
Features

- ✧Epitaxial planar die construction
- ✧Surface device type mounting
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version and RoHS compliant
- ✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Mechanical Data

- ✧Case : TO-92 plastic package
- ✧Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧Weight : 0.19gram (approximately)
- ✧High temperature soldering guaranteed: 260°C/10s

TO-92



Ordering Information

Package	Part No.	Packing
TO-92	BC337-16 A1	4K/box
TO-92	BC337-16 A1G	4K/box
TO-92	BC337-25 A1	4K/box
TO-92	BC337-25 A1G	4K/box
TO-92	BC337-40 A1	4K/box
TO-92	BC337-40 A1G	4K/box
TO-92	BC338-16 A1	4K/box
TO-92	BC338-16 A1G	4K/box
TO-92	BC338-25 A1	4K/box
TO-92	BC338-25 A1G	4K/box
TO-92	BC338-40 A1	4K/box
TO-92	BC338-40 A1G	4K/box

Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.50	4.70	0.177	0.185
B	4.50	4.70	0.177	0.185
C	12.50		0.492	
D	0.35	0.45	0.013	0.017
E	3.50	3.70	0.137	0.145
F	1.00	1.20	0.039	0.047
G	0.29	0.39	0.011	0.015

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

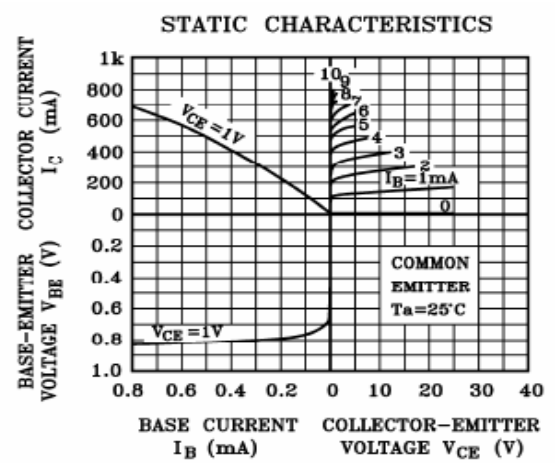
Maximum Ratings

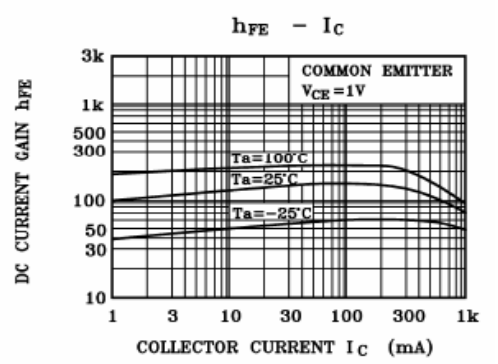
Type Number	Symbol	BC337	BC338	Units
Power Dissipation	P_D	625		mW
Collector-Base Voltage	V_{CBO}	50	30	V
Collector-Emitter Voltage	V_{CEO}	45	25	V
Emitter-Base Voltage	V_{EBO}	5		V
Peak Collector Current	I_{CM}	1		A
Collector Current	I_C	800		mA
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150		°C

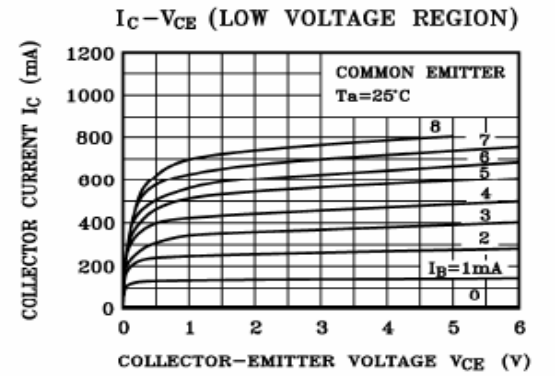
Notes:1. Valid provided that electrodes are kept at ambient temperature

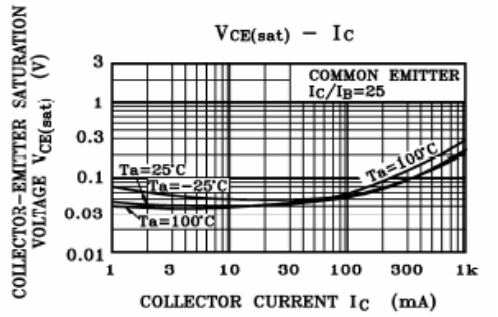
Small Signal Diode

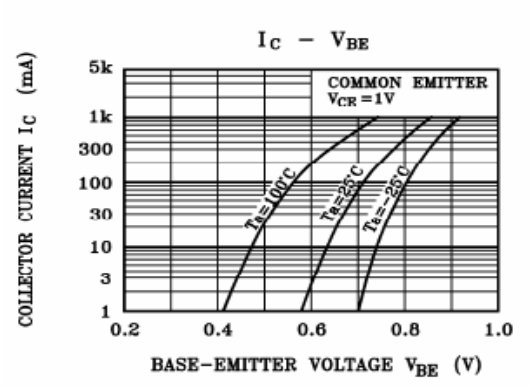
Rating and Characteristic Curves

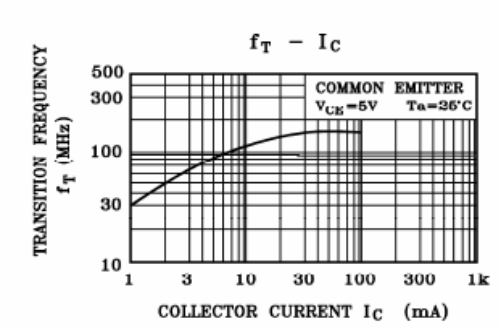


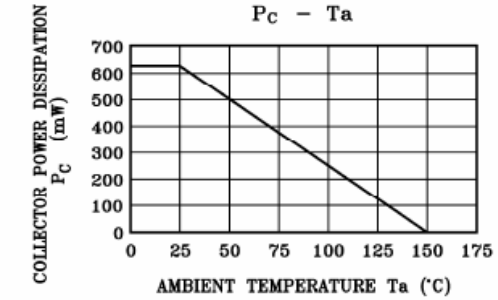












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Electrical Characteristics T_a=25℃

Type Number				Symbol	Min	Max	Units
Collector-Base Breakdown Voltage	BC337 BC338	I_C= 100μA		$V_{(BR)CBO}$	50 30	- - -	V
Collector-Emitter Breakdown Voltage	BC337 BC338	I_C= 2mA		$V_{(BR)CEO}$	45 25	- - -	V
Emitter-Base Breakdown Voltage		I_E= 100μA		$V_{(BR)EBO}$	5	-	V
Collector Cut-off Current	BC337 BC338	V_{CB}=50V V_{CB}=30V		I_{CBO}	-	100 100	nA
DC current gain current gain Group16 25 40		V_{CE}=1V V_{CE}=1V V_{CE}=1V	I_C=100mA/300mA I_C=100mA/300mA I_C=100mA/300mA	h_{FE}	100/60 160/60 250/60	250 400 630	- - -
Collector-Emitter saturation voltage		I_C=500mA	I_B=50mA	$V_{CE(sat)}$	-	0.7	V
Base-Emitter on voltage		V_{CE}= 1V	I_C=300mA	$V_{BE(on)}$	-	1.2	V
Transition Frequency	V_{CE}=5V	I_C=10mA	f= 50MHz	f_T	100	-	MHz
Collector Base Capacitance		V_{CB}=10V	f= 1MHz	C_{CB}	-	12	PF

Tape & Reel specification