

Small Signal Product

NPN Transistor

FEATURES

- For switching and AF amplifier applications
- These types are subdivided into three groups -16, -25 and -40, according to their current gain
- Moisture sensitivity level 1
- Driver transistor
- Pb free and RoHS complian
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

MECHANICAL DATA

- Case: TO-92 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s
- Weight: 190 mg (approximately)



TO-92



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)				
PARAMETER		SYMBOL	VALUE	UNIT
Total Power dissipation		P _{TOT}	625	mW
Collector-Base Voltage	BC337	V _{CBO}	50	V
	BC338		30	
Collector-Emitter Voltage	BC337	V _{CEO}	45	V
	BC338		25	
Emitter-Base Voltage	BC337	V _{EBO}	5	V
	BC338		5	
Collector Current		I _C	800	mA
Peak Collector Current		I _{CM}	1000	mA
Junction and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C

PARAMETER			SYMBOL	MIN	MAX	UNIT
Collector-Base Breakdown Voltage	BC337	I _C = 100μA	V _{(BR)CBO}	50	-	V
	BC338			30		
Collector-Emitter Breakdown Voltage	BC337	I _C = 2mA	V _{(BR)CEO}	45	-	V
	BC338			25		
Emitter-Base Breakdown Voltage	BC337	I _E = 100μA	V _{(BR)EBO}	5	-	V
	BC338			5		
Collector Base Cutoff Current	BC337	V _{CB} =50V	I _{CBO}	-	100	nA
	BC338	V _{CB} =30V		-	100	
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
Output Capacitance		V _{CB} =10V, f=1MHz	C _{ob}	12	-	pF
DC Current Gain	Current Gain Group: -16 -25 -40		h _{FE}	100	250	V
				160	400	
				250	630	
	V _{CE} = 5V, I _C = 300mA			60	-	

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RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 STATIC CHARACTERISTIC

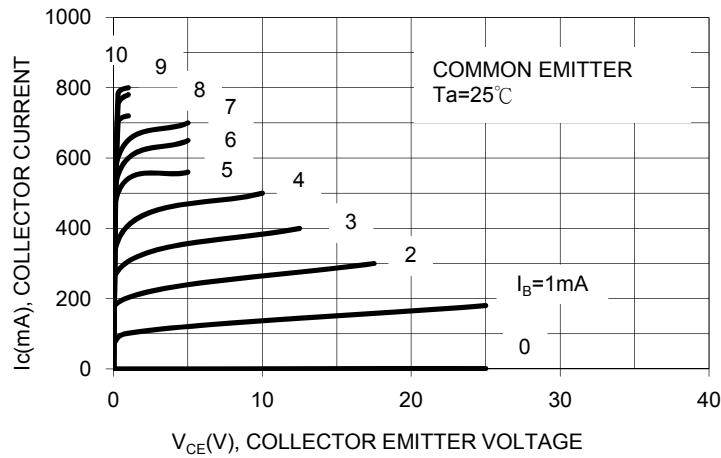


FIG.2 STATIC CHARACTERISTIC

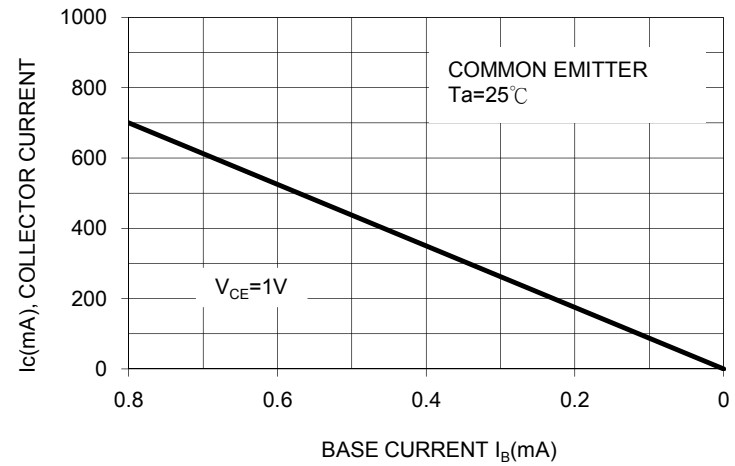


FIG.3 STATIC CHARACTERISTIC

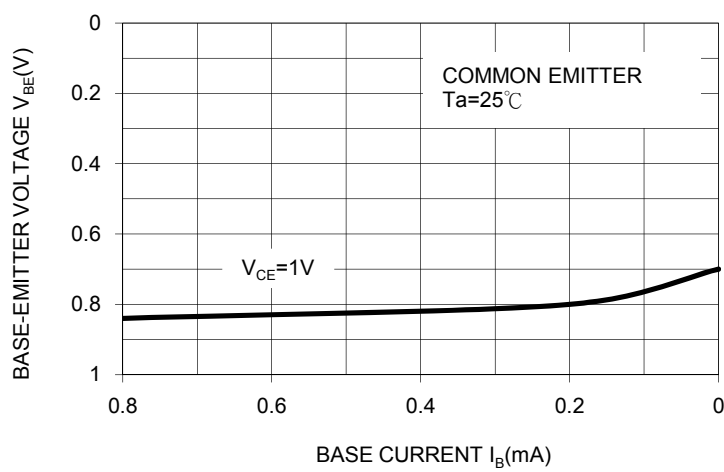


FIG. 4 $h_{FE} - I_C$

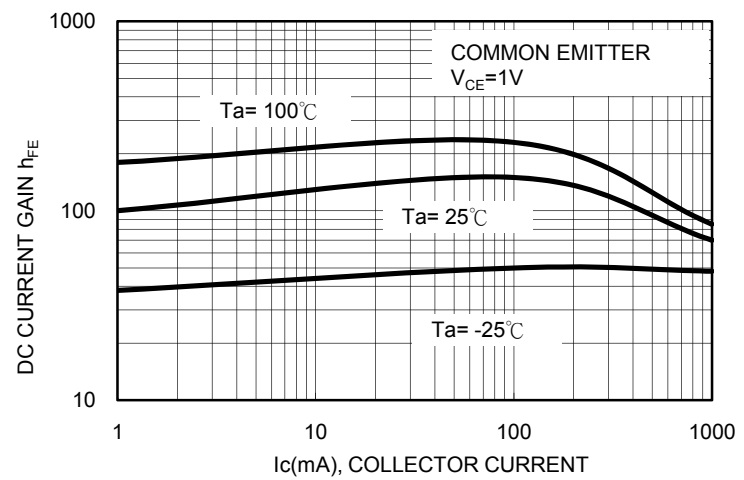


FIG.5 $I_C - V_{CE}$ (LOW VOLTAGE REGION)

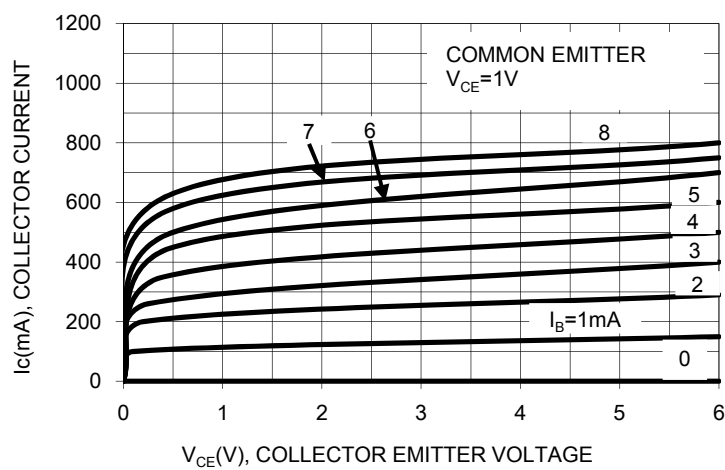
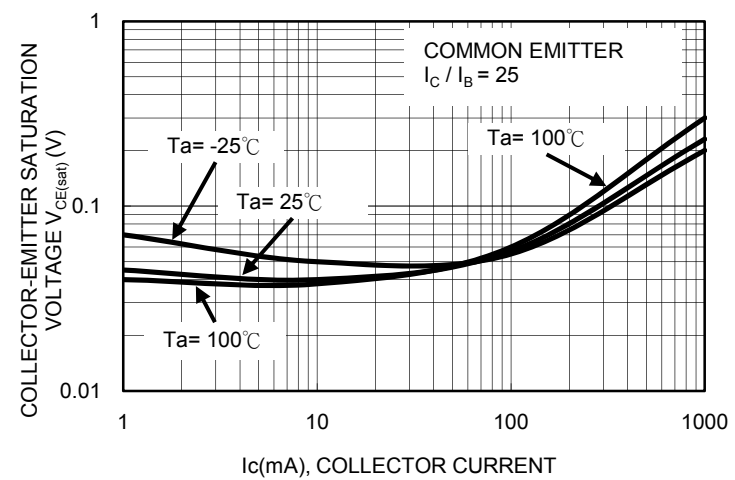


FIG. 6 $V_{CE(sat)} - I_C$



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ORDERING INFORMATION						
PART NO.	MANUFACTURE CODE (Note1)	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MARKING
BC33x-16 (Note2)		A1	G	TO-92	4K / Ammo	BC33x-16 (Note2)
BC33x-25 (Note2)		A1	G	TO-92	4K / Ammo	BC33x-25 (Note2)
BC33x-40 (Note2)		A1	G	TO-92	4K / Ammo	BC33x-40 (Note2)
BC33x-16 (Note2)		B1	G	TO-92	5K / Bulk	BC33x-16 (Note2)
BC33x-25 (Note2)		B1	G	TO-92	5K / Bulk	BC33x-25 (Note2)
BC33x-40 (Note2)		B1	G	TO-92	5K / Bulk	BC33x-40 (Note2)

Note1: Indicator of manufacturing site for manufacture special control, if empty means no special control requirement.

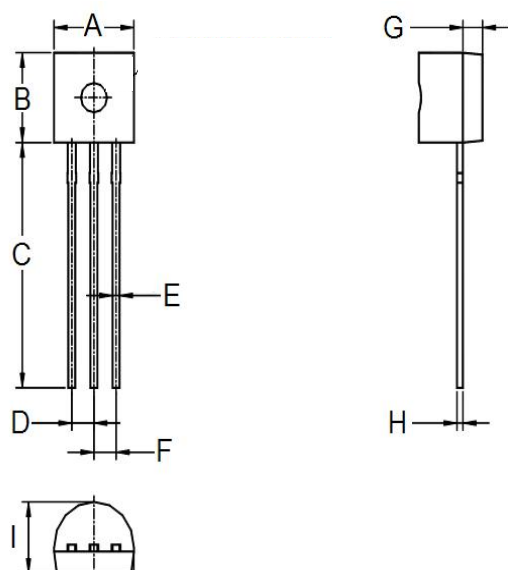
Note2: "x" is Device Code from "7" through "8", and "MARKING" should follow the "PART NO."

EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BC337-16 A1G	BC337-16		A1	G	Green compound
BC337-16 B1G	BC337-16		B1	G	Green compound
BC337-16-B0 A1G	BC337-16	B0	A1	G	Green compound
BC337-16-B0 B1G	BC337-16	B0	B1	G	Green compound

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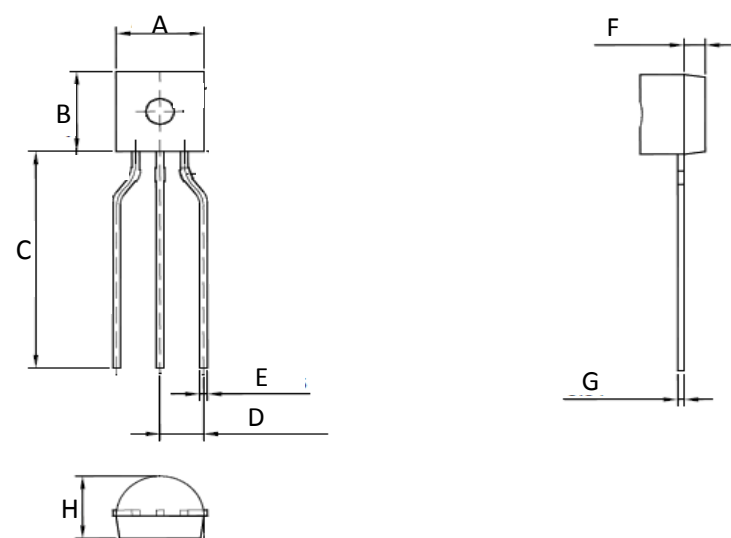
PACKAGE OUTLINE DIMENSIONS

TO-92 Bulk



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	5.10	0.169	0.201
B	4.30	4.70	0.169	0.185
C	12.50	14.50	0.492	-
D	1.17	1.37	0.046	0.054
E	0.35	0.55	0.014	0.022
F	1.17	1.37	0.046	0.054
G	0.59	1.40	0.023	0.055
H	0.29	0.51	0.011	0.020
I	3.30	4.10	0.130	0.161

TO-92 Ammo



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	5.10	0.169	0.201
B	4.30	4.70	0.169	0.185
C	12.50	-	0.492	-
D	2.20	2.80	0.087	0.110
E	0.35	0.55	0.014	0.022
F	0.59	1.40	0.023	0.055
G	0.29	0.51	0.011	0.020
H	3.30	4.10	0.130	0.161