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

1. Collector 2. Base 3. Emitter
TO-92 Plastic Package

TO-92

Pb-Free

RoHS COMPLIANT

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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ 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	V_{CE}= 5V, I_C= 100mA	h_{FE}	100	250	V
	-25			160	400	
	-40			250	630	
		V_{CE}= 5V, I_C= 300mA		60	-	

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RATINGS AND CHARACTERISTICS CURVES

(T_A=25℃ unless otherwise noted)

FIG.1 STATIC CHARACTERSTIC

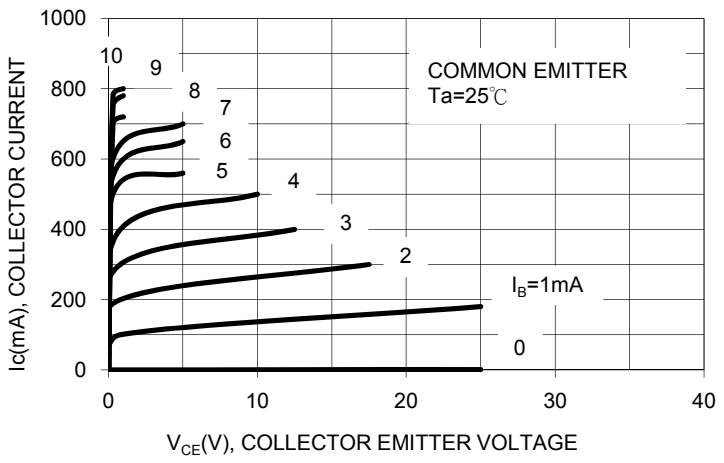


FIG.2 STATIC CHARACTERSTIC

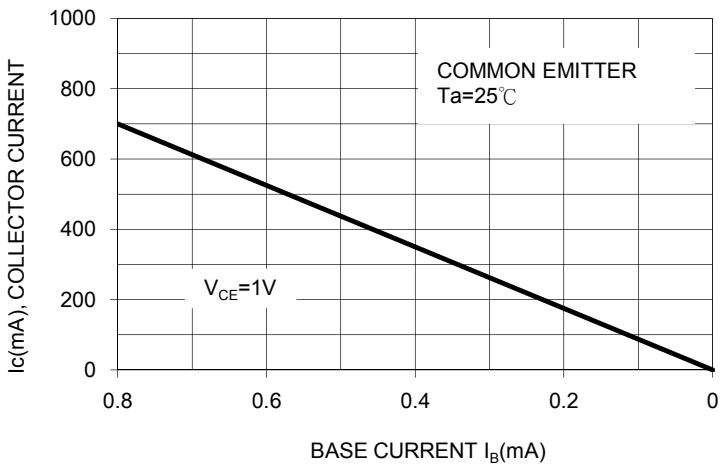


FIG.3 STATIC CHARACTERSTIC

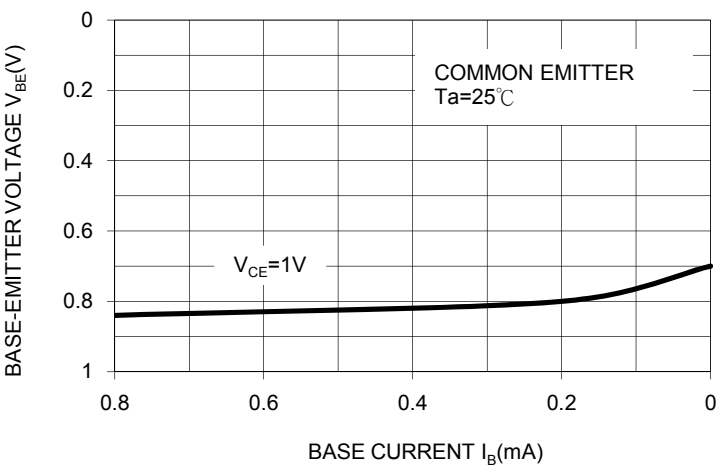


FIG. 4 h_{FE} - I_C

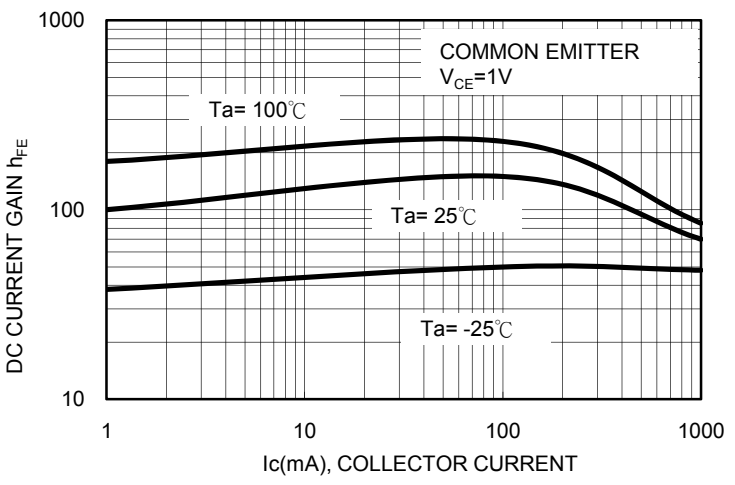


FIG.5 IC - VCE(LOW VOLTAGE REGION)

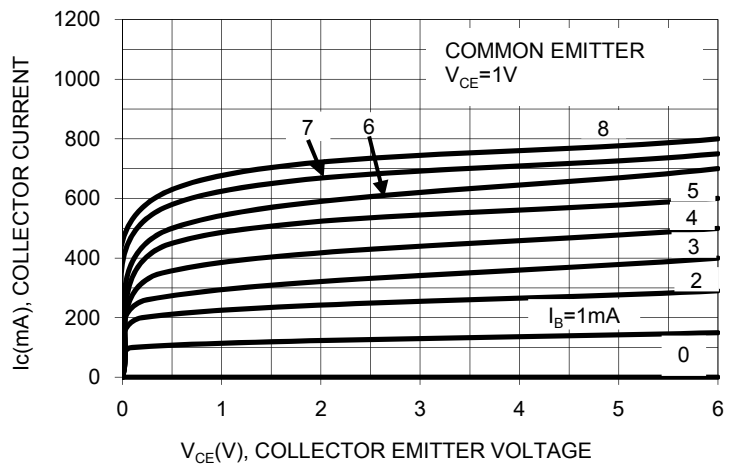
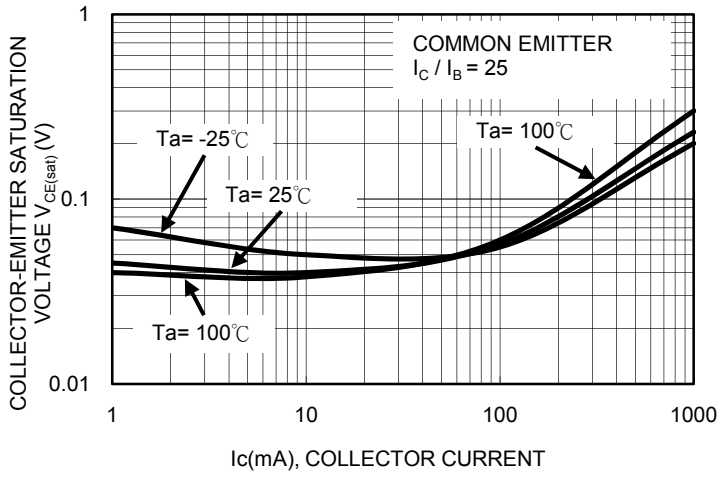


FIG. 6 V_{CE}(sat) - I_C



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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)

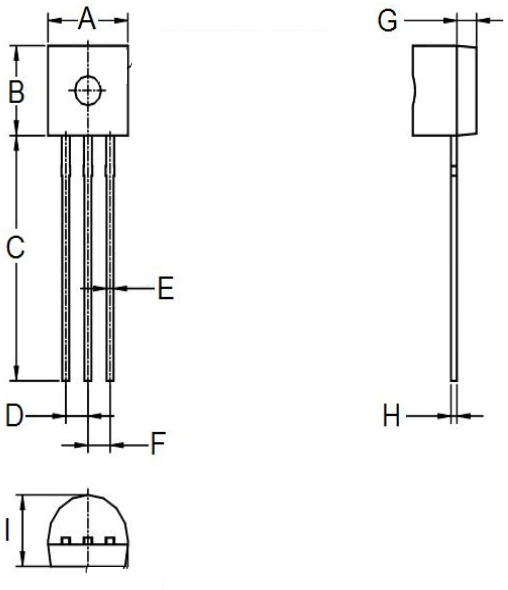
Note1: Indicator of manufacturing site for manufacture special control, if empty means no special control requirement.

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

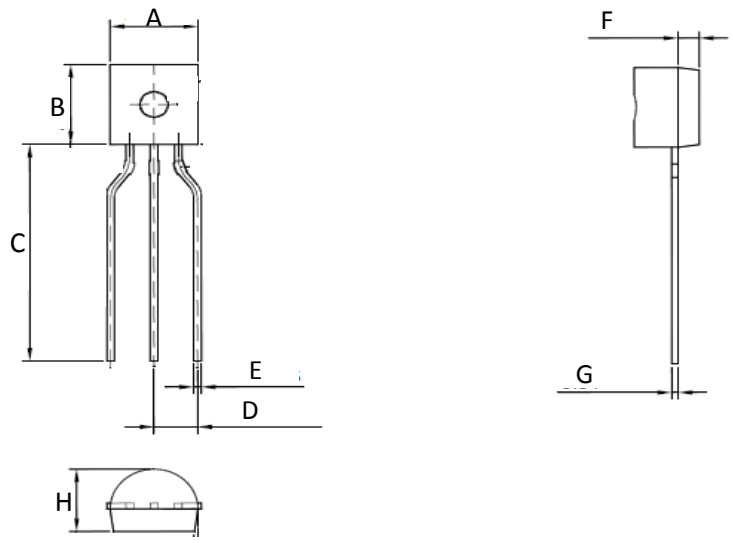
PACKAGE OUTLINE DIMENSIONS

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

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Document Number: DS_S1407004 Version: B14