NPN Plastic-Encapsulate Transistors

Features

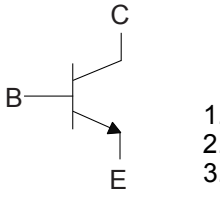
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 200℃/W Junction to Ambient

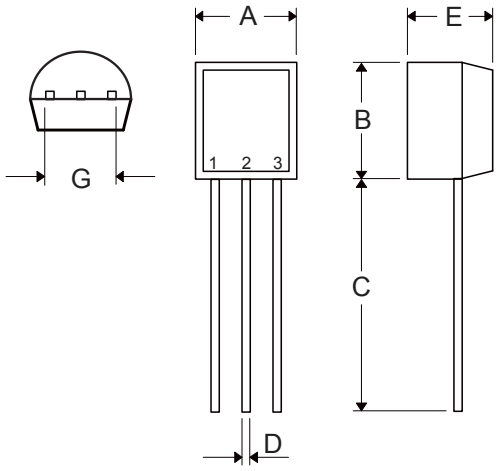
Parameter		Symbol	Rating	Unit
Collector-Base Voltage	BC337	V_{CBO}	50	V
	BC338		30	
Collector-Emitter Voltage	BC337	V_{CEO}	45	V
	BC338		25	
Emitter-Base Voltage		V_{EBO}	5	V
Continuous Collector Current		I_C	800	mA
Power Dissipation		P_D	625	mW

Internal Structure



1.COLLECTOR
2.BASE
3.EMITTER

TO-92



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.169	0.185	4.30	4.70	
C	0.500	-----	12.70	-----	
D	0.015	0.022	0.38	0.55	
E	0.130	0.146	3.30	3.70	
G	0.095	0.105	2.42	2.67	Straight Lead
	0.173	0.220	4.40	5.60	Bent

Electrical Characteristics @ T_A=25°C Unless Otherwise Specified

Parameter		Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	BC337	$V_{(BR)CBO}$	50			V	I_C=100μA, I_E=0
	BC338		30				
Collector-Emitter Breakdown Voltage	BC337	$V_{(BR)CEO}$	45			V	I_C=10mA, I_B=0
	BC338		25				
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	5			V	I_E=10μA, I_C=0
Collector Cutoff Current	BC337	I_{CBO}			0.1	μA	V_{CB}=45V, I_E=0
	BC338				0.1		V_{CB}=25V, I_E=0
Collector Cutoff Current	BC337	I_{CEO}			0.2	μA	V_{CE}=40V, I_B=0
	BC338				0.2		V_{CE}=20V, I_B=0
Emitter Cutoff Current		I_{EBO}			0.1	μA	V_{EB}=4V, I_C=0
DC Current Gain		$h_{FE(1)}$	100		630		V_{CE}=1V, I_C=100mA
		$h_{FE(2)}$	60				V_{CE}=1V, I_C=300mA
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			0.7	V	I_C=500mA, I_B=50mA
Base-Emitter Saturation Voltage		$V_{BE(sat)}$			1.2	V	I_C=500mA, I_B=50mA
Transition Frequency		f_T	210			MHz	V_{CE}=5V, I_C=10mA, f=100MHz
Output Capacitance		C_{ob}		15		pF	V_{CB}=10V, I_E=0, f=1MHz

Classification of $h_{FE(1)}$

Rank	16	25	40
Range	100-250	160-400	250-600

Curve Characteristics

Fig. 1 - Static Characteristics

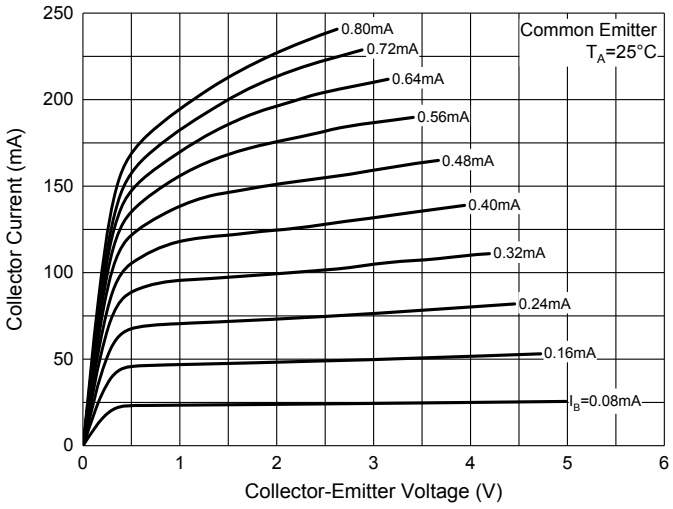


Fig. 2 - DC Current Gain Characteristics

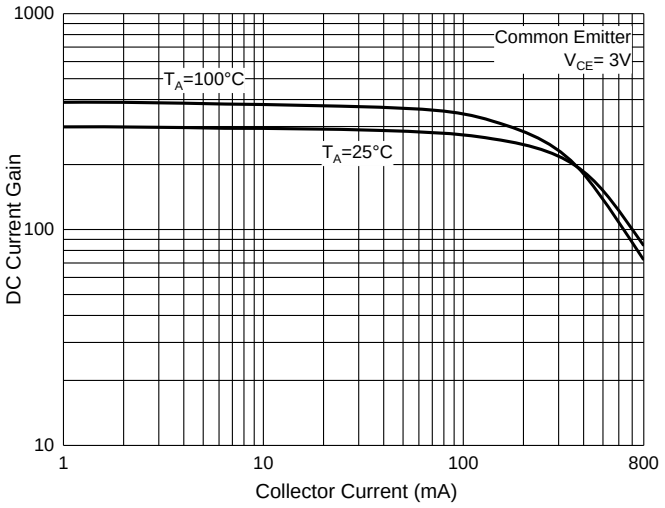


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

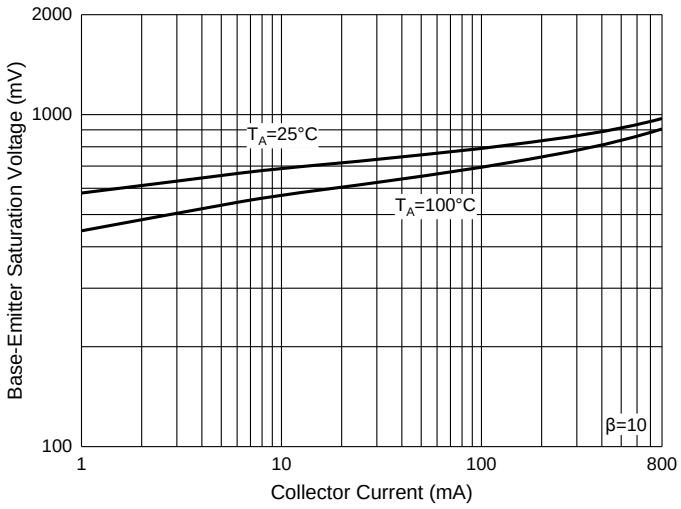


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

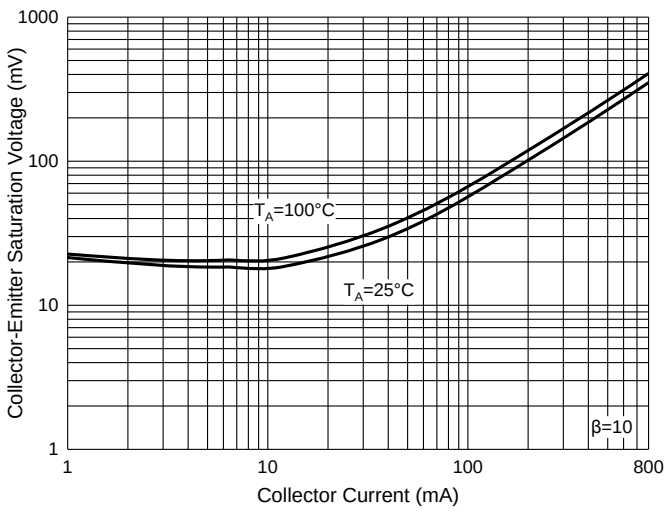


Fig. 5 - Transition frequency Characteristics

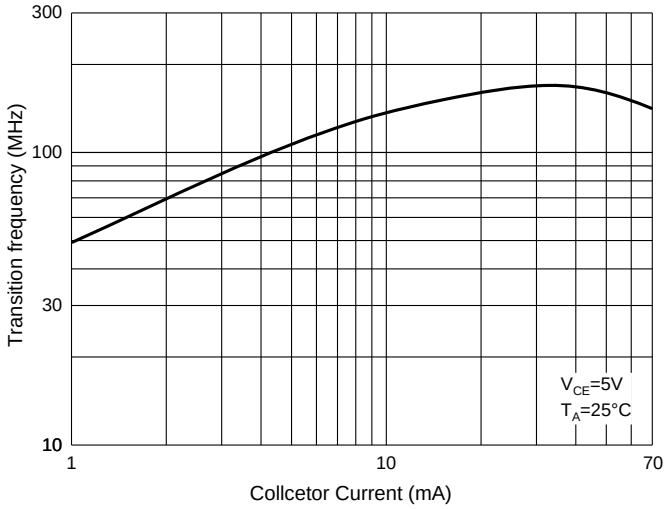
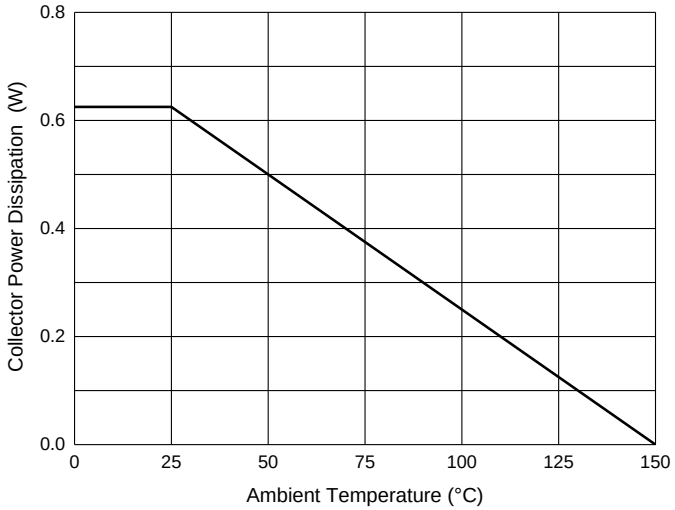


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk:1k/Bag,100K/Ctn;

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF