

**Features**

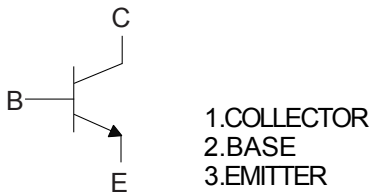
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings @ 25°C Unless Otherwise Specified**

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

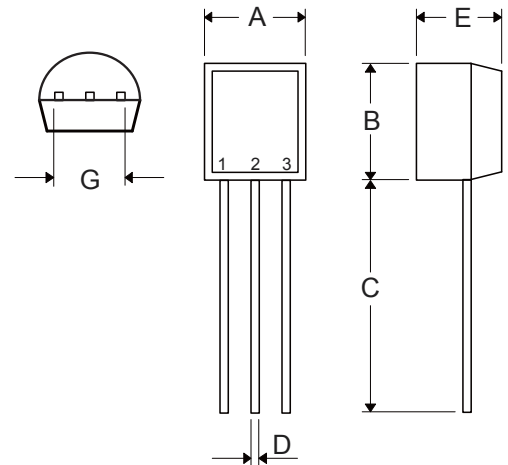
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	BC337	50	V
	BC338	30	
Collector-Emitter Voltage	BC337	45	V
	BC338	25	
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	800	mA
Power Dissipation	$P_D$	625	mW

**Internal Structure**



**NPN  
Plastic-Encapsulate  
Transistors**

**TO-92**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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 @  $T_A=25^\circ\text{C}$  Unless Otherwise Specified**

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

**Classification of  $h_{FE(1)}$** 

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

## Curve Characteristics

Fig. 1 - Static Characteristics

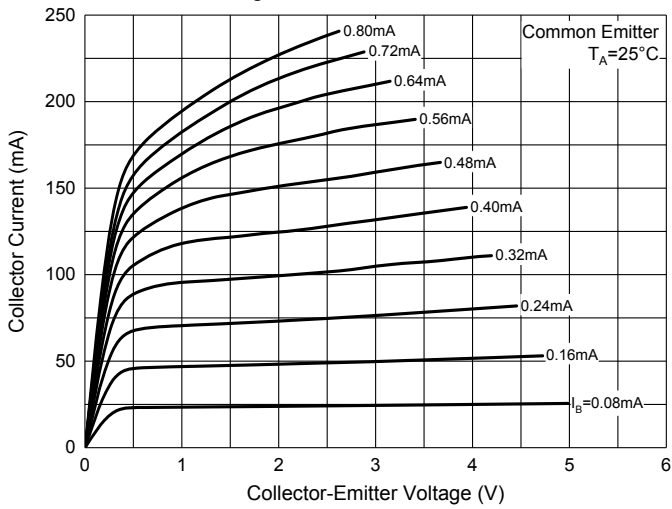


Fig. 2 - DC Current Gain Characteristics

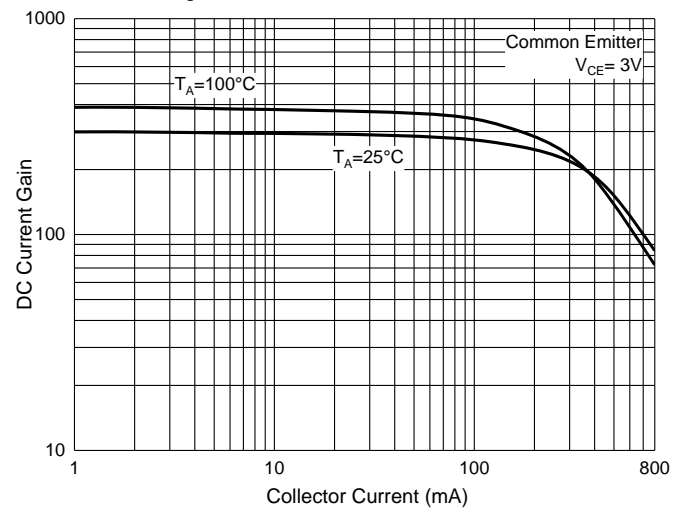


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

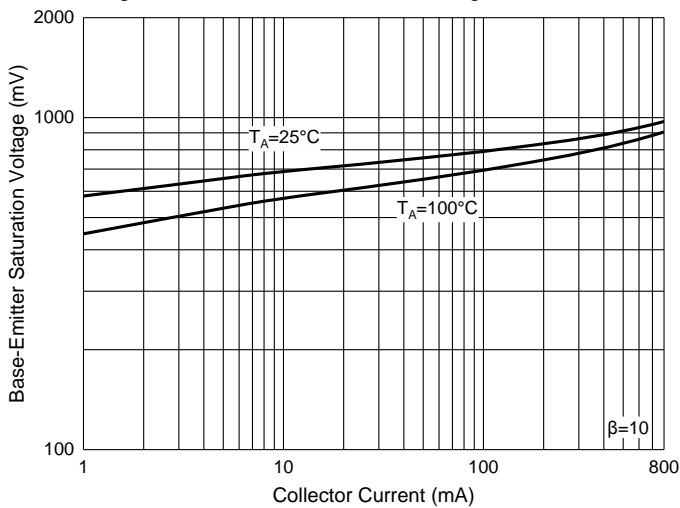


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

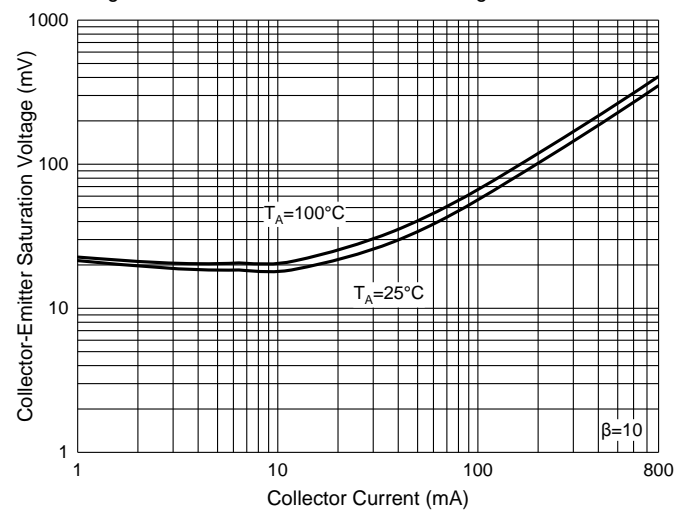


Fig. 5 - Transition frequency Characteristics

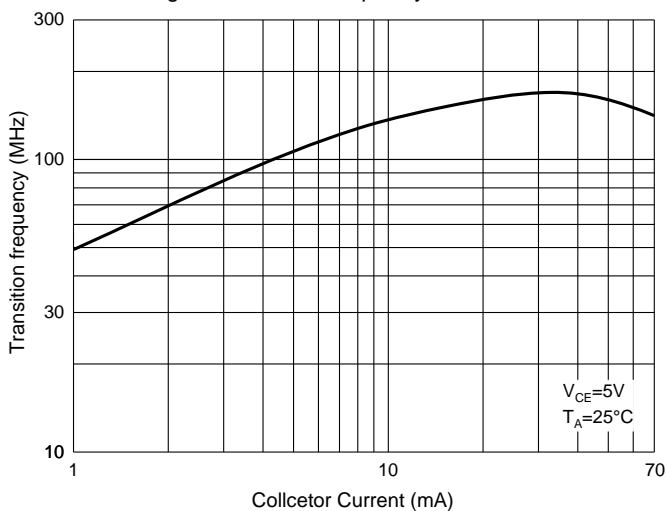
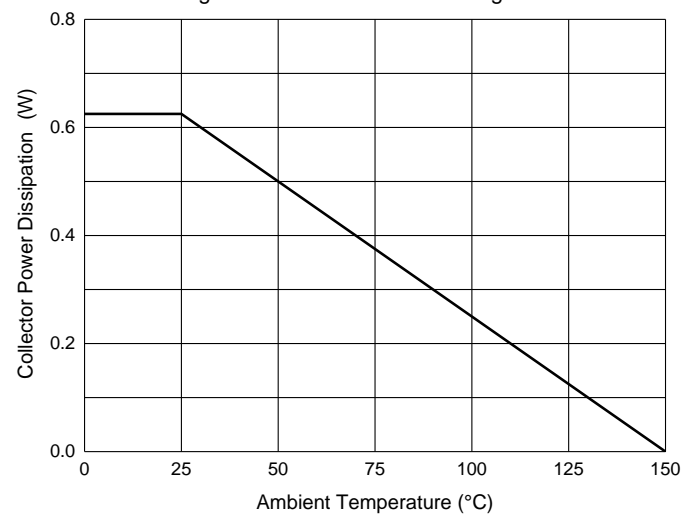


Fig. 6 - Collector Power Derating Curve



## 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

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