NPN General Purpose Amplifier Transistor

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)

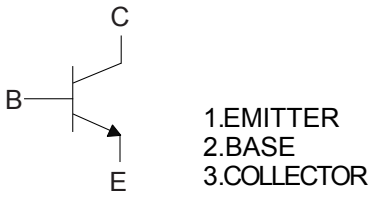
Maximum Ratings @ 25°C Unless Otherwise Specified

- 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	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Continuous Collector Current	I_C	600	mA
Power Dissipation	P_D	625	mW

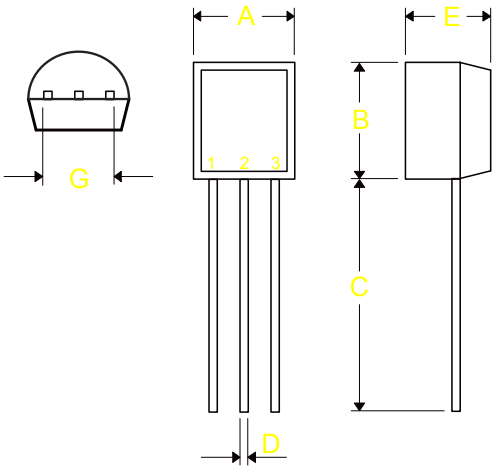
Marking: Type Number

Internal Structure



1.EMITTER
2.BASE
3.COLLECTOR

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	$V_{(BR)CBO}$	180			V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage*	$V_{(BR)CEO}$	160			V	I_C=1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	I_E=10μA, I_C=0
Collector Cut-off Current	I_{CBO}			0.05	μA	V_{CB}=35V, I_E=0
				50	μA	V_{CB}=120V, I_E=0, T_A=100℃
Emitter Cut-off Current	I_{EBO}			0.05	μA	V_{EB}=5V, I_C=0
DC Current Gain*	$h_{FE(1)}$	80				V_{CE}=5V, I_C=1mA
	$h_{FE(2)}$	80		300		V_{CE}=5V, I_C=10mA
	$h_{FE(3)}$	30				V_{CE}=5V, I_C=50mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	I_C=50mA, I_B=5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1	V	I_C=50mA, I_B=5mA
Transition Frequency	f_T	100		300	MHz	V_{CE}=10V, I_C=10mA
Collector Output Capacitance	C_{ob}			6	pF	V_{CB}=10V, I_E=0,f=1MHz
Input Capacitance	C_{ibo}			20	pF	V_{CE}=10V, I_C=0, f=1MHz

*.Pulse test: Pulse Width≤300μs,Duty Cycle≤2.0%.

Curve Characteristics

Fig. 1 - Static Characteristics

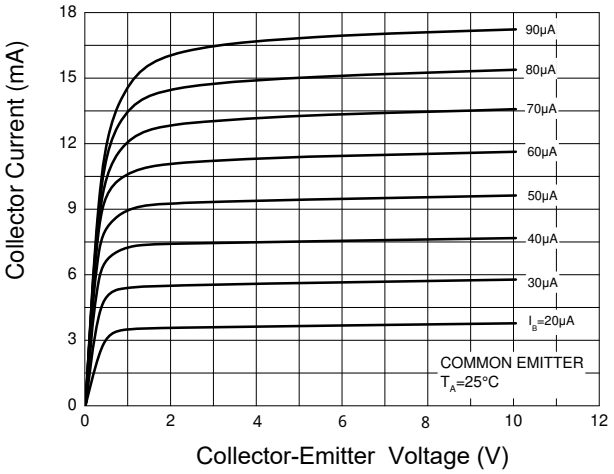


Fig. 2 - DC Current Gain Characteristics

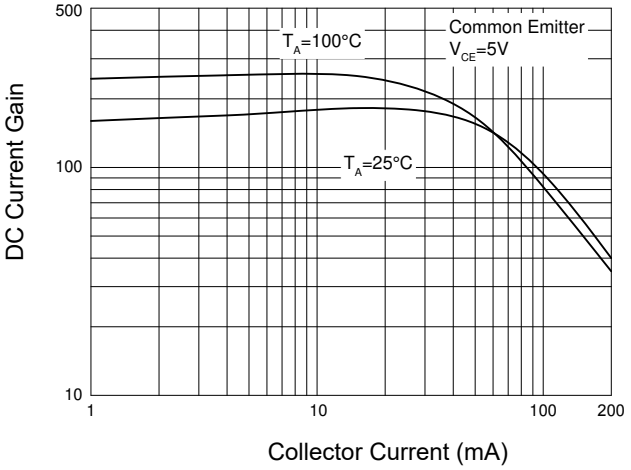


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

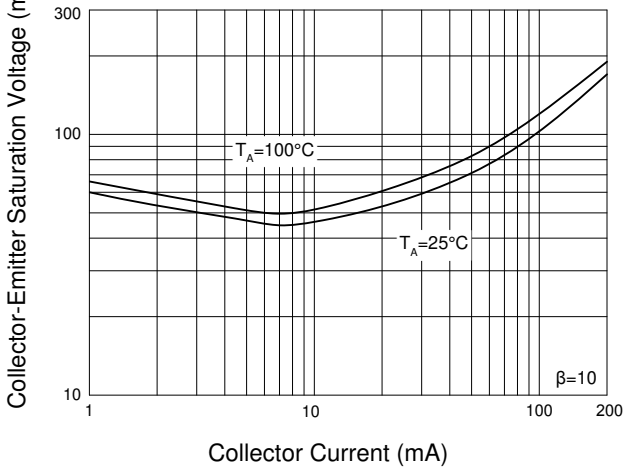


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

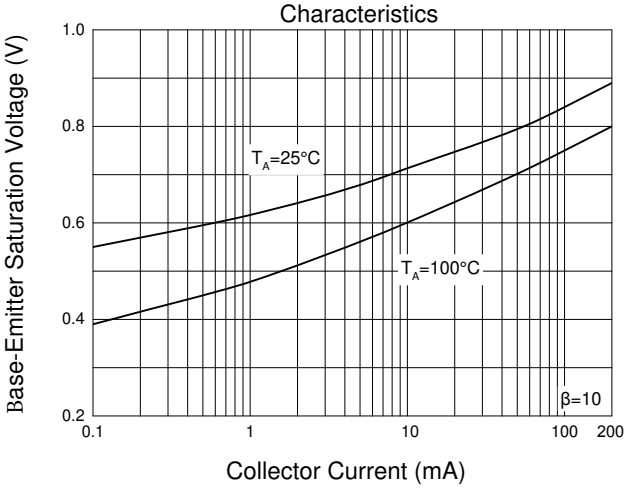


Fig. 5 - Base-Emitter Voltage Characteristics

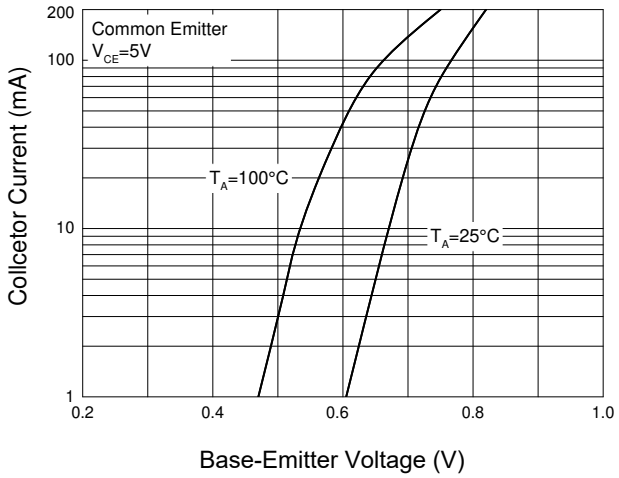
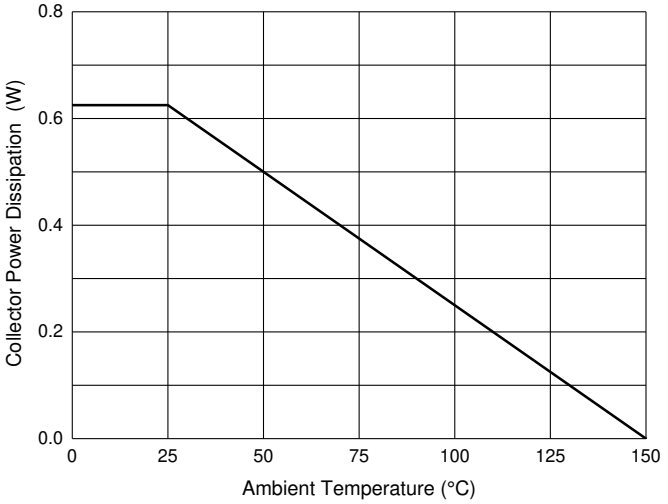


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

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

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