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)

PNP General Purpose Amplifier

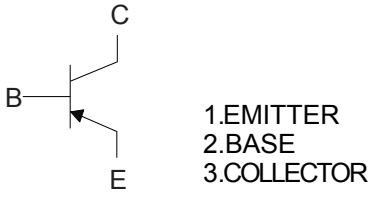
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 208℃/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-600	mA
Power Dissipation	P_D	625	mW

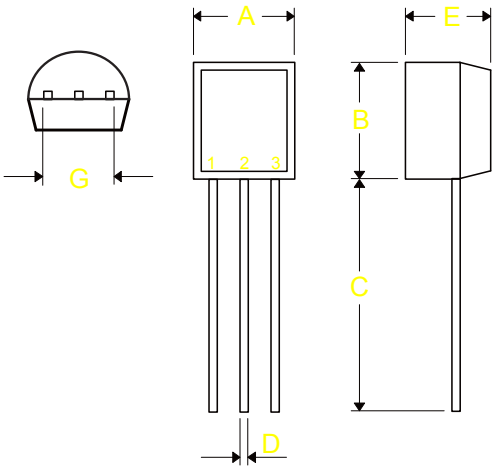
Marking: Part Number

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	$V_{(BR)CBO}$	-60			V	I_C=-10μA, I_E=0
Collector-Emitter Breakdown Voltage*	$V_{(BR)CEO}$	-60			V	I_C=-10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-10μA, I_C=0
Collector Cut-off Current	I_{CEX}			-0.05	μA	V_{CE}=-30V, V_{BE}=-0.5V
Base Cutoff Current	I_{BL}			-0.05	μA	V_{CE}=-30V, V_{BE}=-0.5V
Collector Cut-off Current	I_{CBO}			-0.1	μA	V_{CB}=-50V, I_E=0
				-10	μA	V_{CB}=-50V, I_E=0, T_A=150℃
DC Current Gain*	$h_{FE(1)}$	75				V_{CE}=-10V, I_C=-0.1mA
	$h_{FE(2)}$	100				V_{CE}=-10V, I_C=-1mA
	$h_{FE(3)}$	100		300		V_{CE}=-10V, I_C=-10mA
	$h_{FE(4)}$	100				V_{CE}=-10V, I_C=-150mA
	$h_{FE(5)}$	50				V_{CE}=-10V, I_C=-500mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.4	V	I_C=-150mA, I_B=-15mA
				-1.6	V	I_C=-500mA, I_B=-50mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.3	V	I_C=-150mA, I_B=-15mA
				-2.6	V	I_C=-500mA, I_B=-50mA
Transition Frequency	f_T	200			MHz	V_{CE}=-20V, I_C=-50mA, f=100MHz
Delay Time	t_d			10	ns	V_{CC}=-3V, I_C=-150mA, I_{B1}=-15mA
Rise Time	t_r			40	ns	
Storage Time	t_s			80	ns	V_{CC}=-3V, I_C=-150mA, I_{B1}=I_{B2}=-15mA
Fall Time	t_f			30	ns	
Output Capacitance	C_{cbo}			8	pF	V_{CB}=-10V, I_E=0,f=100KHz
Collector Output Capacitance	C_{ibo}			30	pF	V_{EB}=-2V, I_C=0, f=100KHz

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

Curve Characteristics

Fig. 1 - Static Characteristics

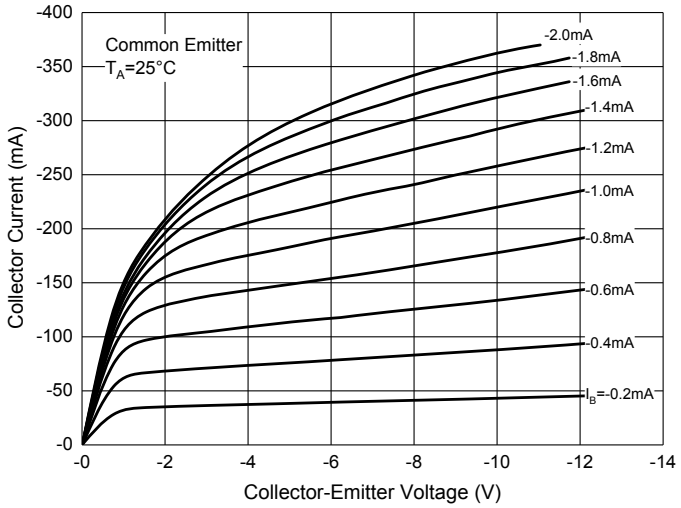


Fig. 2 - DC Current Gain Characteristics

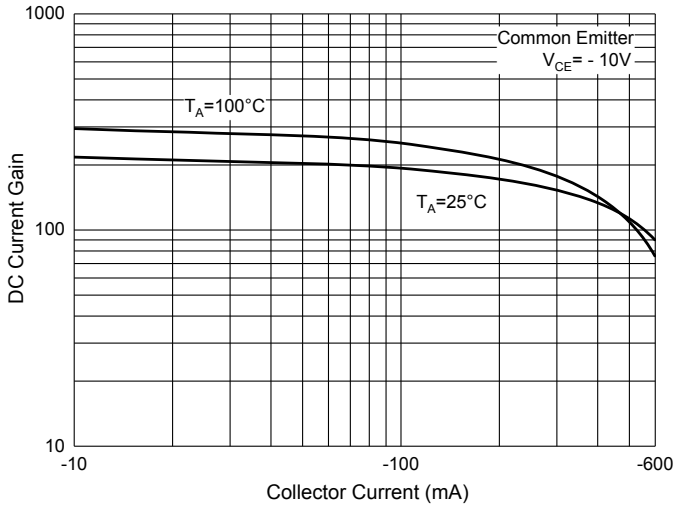


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

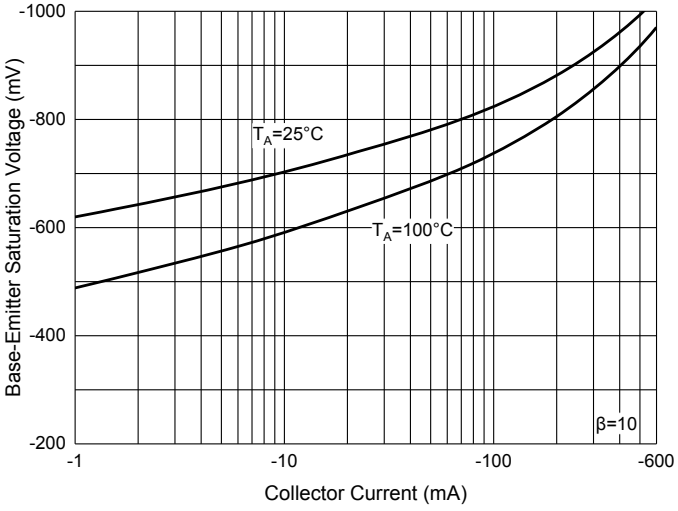


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

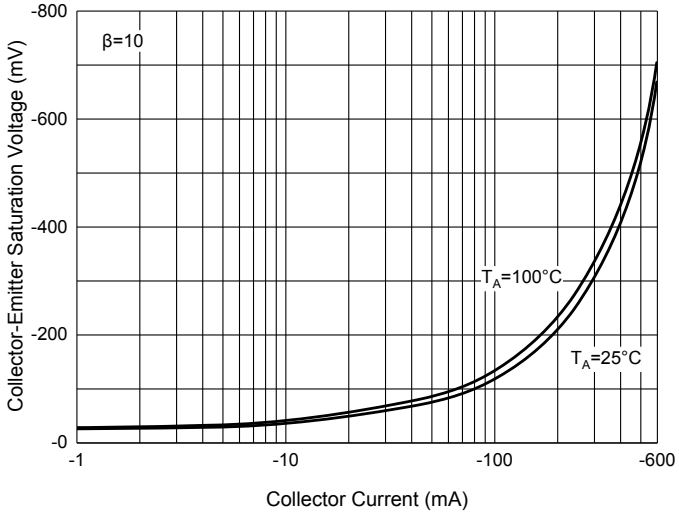


Fig. 5 - Base-Emitter Voltage Characteristics

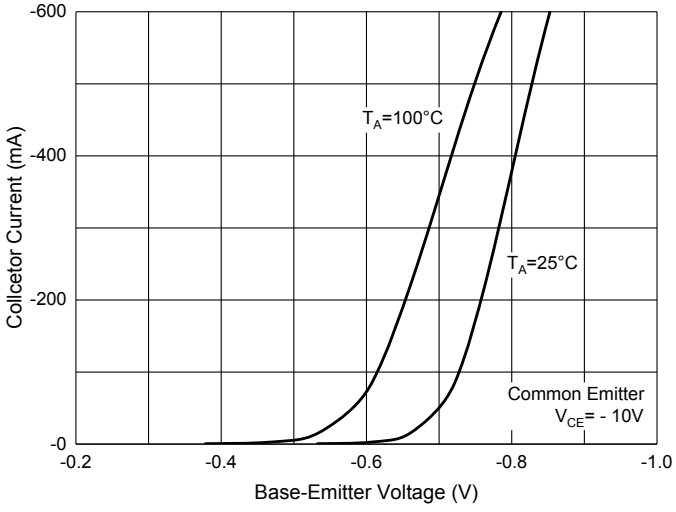
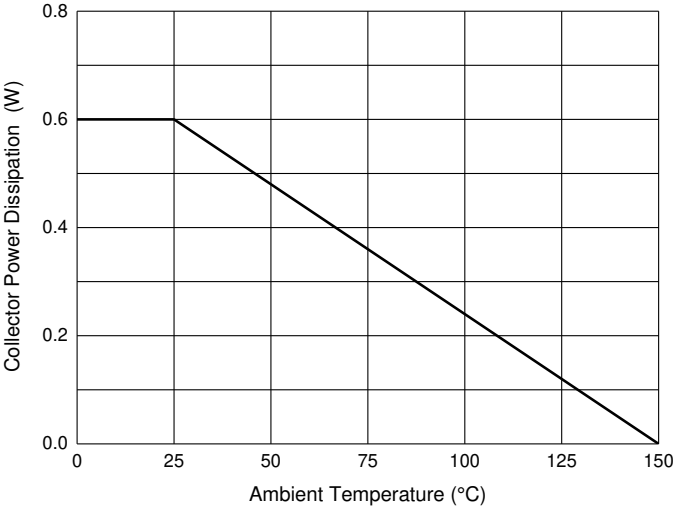


Fig. 6 - Collector Power Derating Curve



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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