

Features

- Audio Frequency Power Amplifier & Medium Speed Switching
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

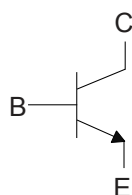
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 166.7°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	50	V
		60	
Collector-Emitter Voltage	V_{CEO}	60	V
		120	
Emitter-Base Voltage	V_{EBO}	6	V
Continuous Collector Current	I_C	1	A
Peak Collector Current	I_{CM}	2	A
Collector Power Dissipation	P_C	0.75	W

Marking:D1616 X

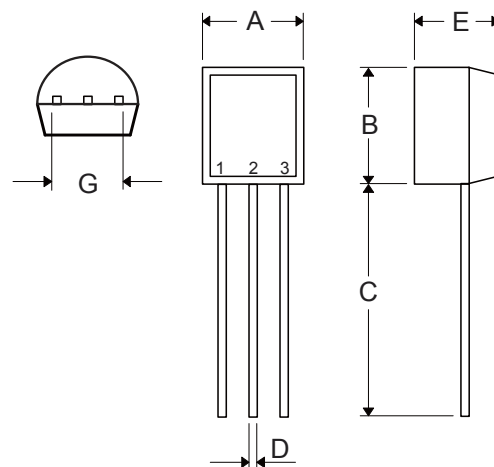
Internal Structure



1.EMITTER
2.COLLECTOR
3.BASE

NPN Silicon Epitaxial 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°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector Cut-off Current	I _{CBO}			100	nA	V _{CB} =60V, I _E =0
Emitter Cutoff Current	I _{EBO}			100	nA	V _{EB} =6V, I _C =0
DC Current Gain	h _{FE(1)}	135			600	V _{CE} =2V, I _C =100mA
		135			400	
DC Current Gain	h _{FE(2)}	81				V _{CE} =2V, I _C =1A
Collector-Emitter Saturation Voltage	V _{CE(sat)}		0.15	0.3	V	I _C =1A, I _B =50mA
Base-Emitter Saturation Voltage	V _{BE(sat)}		0.9	1.2	V	I _C =1.5A, I _B =75mA
Base-Emitter On Voltage	V _{BE(on)}	0.6	0.64	0.7	V	V _{CE} =2V, I _C =50mA
Transition Frequency	f _T	100	160		MHz	V _{CE} =2V, I _C =100mA
Turn On Time	t _{ON}		70		ns	V _{CC} =10V, V _{BE(OFF)} =-2~-3V, I _C =100mA, I _{B1} =I _{B2} =10mA
Storage Time	t _{STG}		950		ns	
Fall Time	t _F		70		ns	
Output Capacitance	C _{ob}		19		pF	V _{CE} =10V, I _E =0, f=1MHz

Classification of h_{FE(1)}

Rank	Y	G	L
Range	135-270	200-400	300-600

Curve Characteristics

Fig. 1 - Static Characteristics

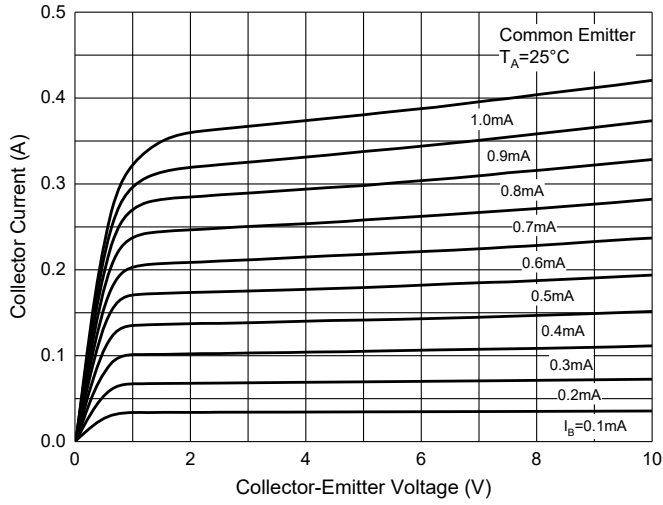


Fig. 2 - DC Current Gain Characteristics

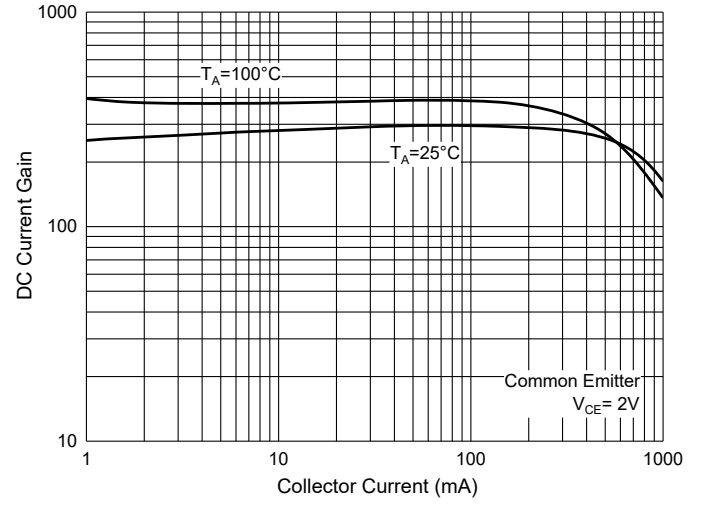


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

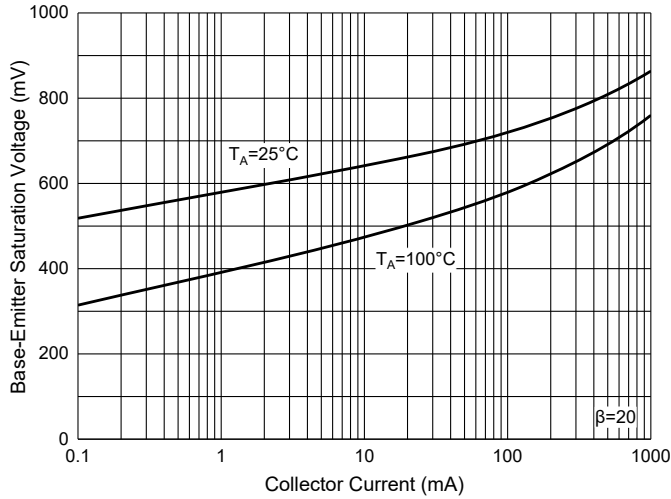


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

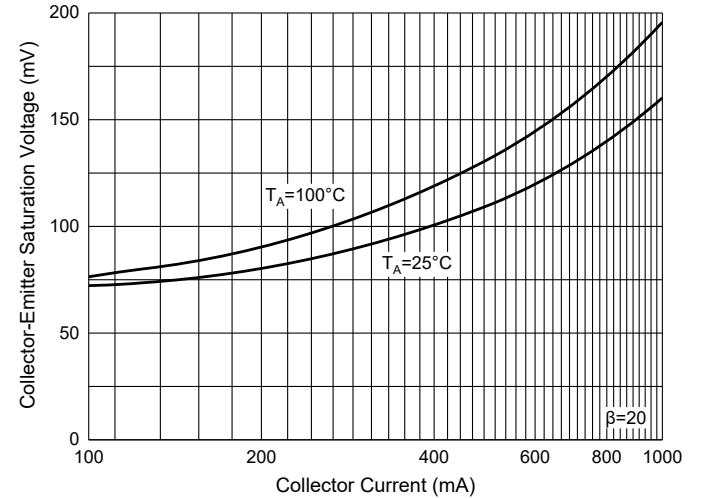


Fig. 5 - Base-Emitter Voltage Characteristics

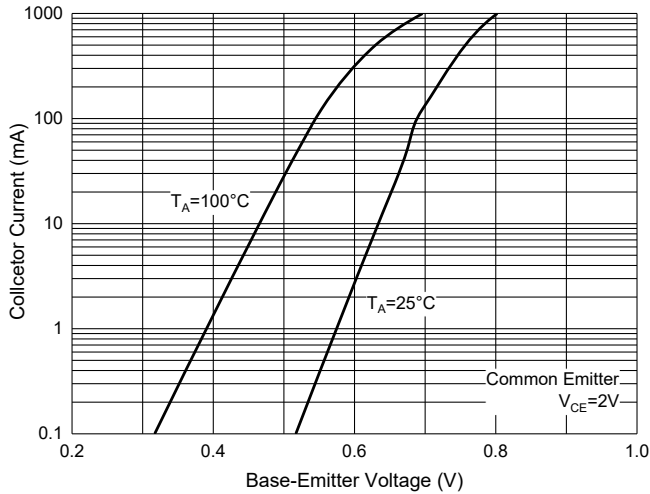
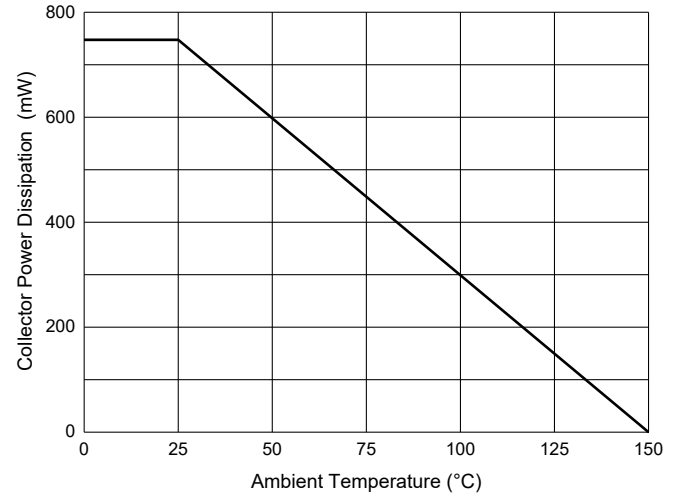


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

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

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