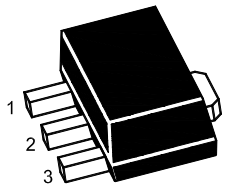
NPN Silicon Epitaxial Planar Transistor

for audio frequency amplifier applications



1.Base 2.Collector 3.Emitter

SOT-89 Plastic Package

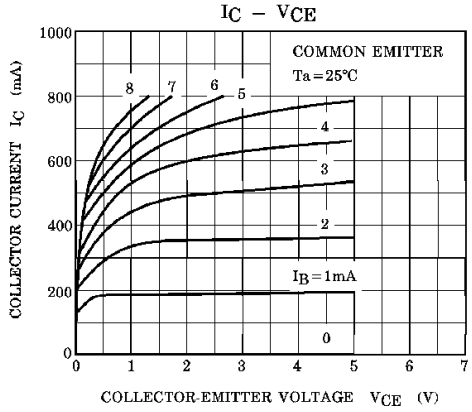
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	35	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	800	mA
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{Stg}	- 55 to + 150	°C

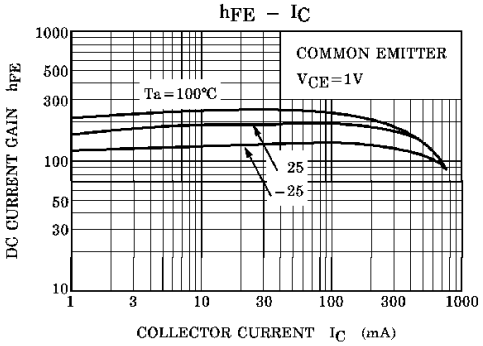
Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE} = 1 V, I_C = 100 mA	Current Gain Group O	h_{FE}	100	-	200	-
	Y	h_{FE}	160	-	320	-
at V_{CE} = 1 V, I_C = 700 mA		h_{FE}	35	-	-	-
Collector Base Cutoff Current at V_{CB} = 35 V		I_{CBO}	-	-	0.1	µA
Emitter Base Cutoff Current at V_{EB} = 5 V		I_{EBO}	-	-	0.1	µA
Collector Base Breakdown Voltage at I_C = 100 µA		$V_{(BR)CBO}$	35	-	-	V
Collector Emitter Breakdown Voltage at I_C = 10 mA		$V_{(BR)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA		$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 20 mA		$V_{CE(sat)}$	-	-	0.5	V
Base Emitter On Voltage at V_{CE} = 1 V, I_C = 10 mA		$V_{BE(on)}$	0.5	-	0.8	V
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA		f_T	-	120	-	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz		C_{ob}	-	13	-	pF

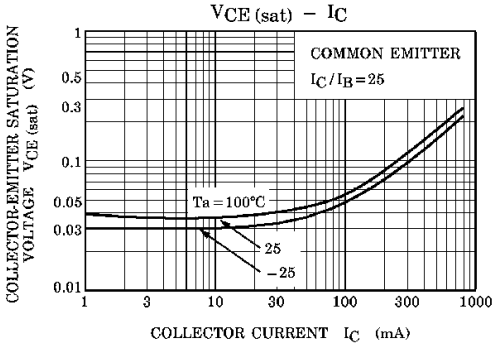
I_C – V_{CE}



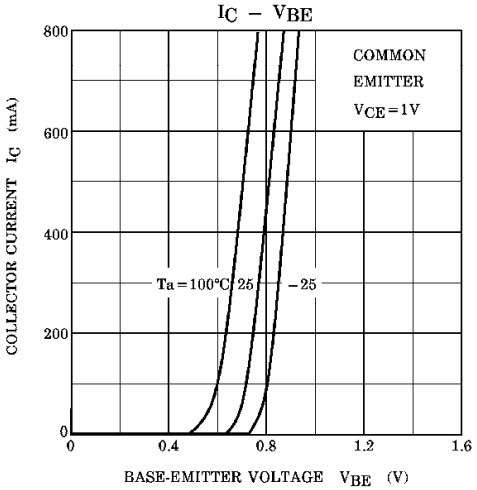
h_{FE} – I_C



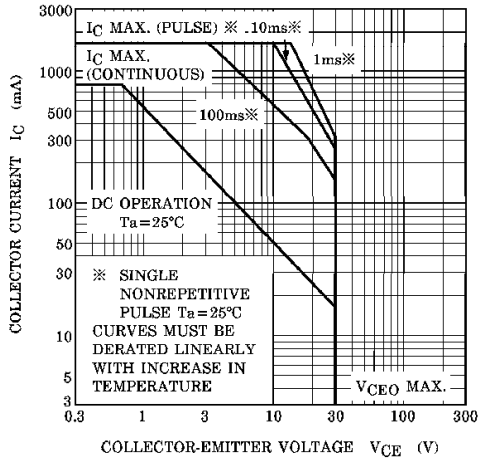
$V_{CE(sat)}$ – I_C



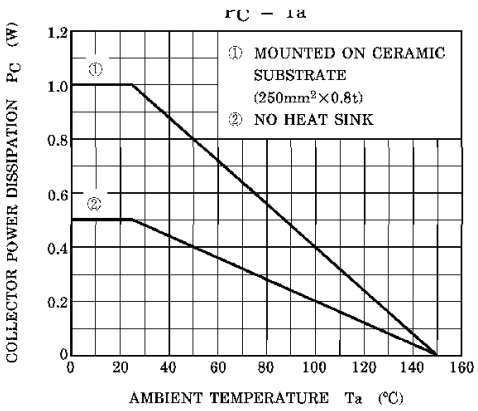
I_C – V_{BE}



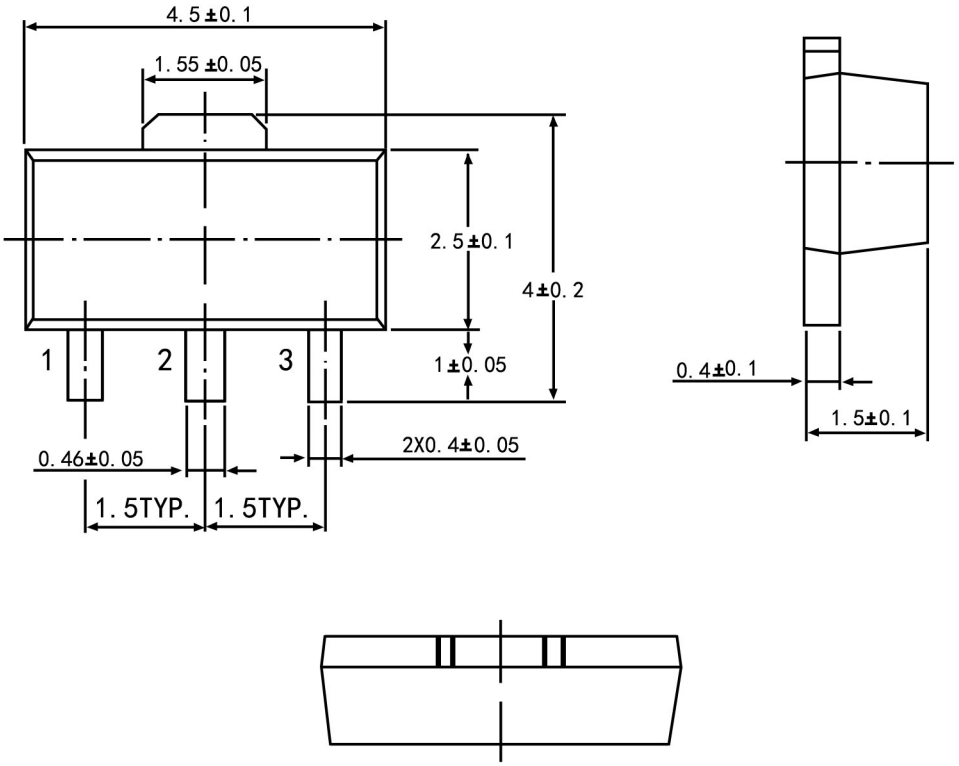
SAFE OPERATING AREA



P_C – Ta



SOT-89 PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20
All Dimensions In mm		