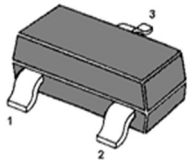
NPN Silicon Epitaxial Planar Transistor

for audio frequency general purpose amplifier applications.

The transistor is subdivided into four groups O, Y, G and L, according to its DC current gain.



1. Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Applications

- Switching
- AF Amplifier

Absolute Maximum Ratings (Ta = 25 ◦C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	30	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	◦C
Storage Temperature Range	T_{stg}	- 55 to + 150	◦C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1)]	$R_{\theta JA}$	625	℃/W

[1)] Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

CLASSIFICATION OF h_{FE}

Rank	O	Y	G	L
Range	70-140	120-240	200-400	350-700
Marking	LO	LY	LG	LL

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Characteristics at T_{amb}=25 °C

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE}=6V, I_C=2mA	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
	G	h_{FE}	200	-	400	-
	L	h_{FE}	350	-	700	-
Collector Cutoff Current at V_{CB}=60V		I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current at V_{EB}=5V		I_{EBO}	-	-	0.1	μA
Collector Saturation Voltage at I_C=100mA, I_B=10mA		$V_{CE(sat)}$	-	-	0.25	V
Transition Frequency at V_{CE}=10V, I_C=1mA		f_T	80	-	-	MHz
Collector Output Capacitance at V_{CB}=10V, f=1MHz		C_{ob}	-	2	3.5	pF
Noise Figure at V_{CE}=6V, I_C=0.1mA, f=1KHz, Rg=10KΩ		NF	-	1	10	dB

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Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

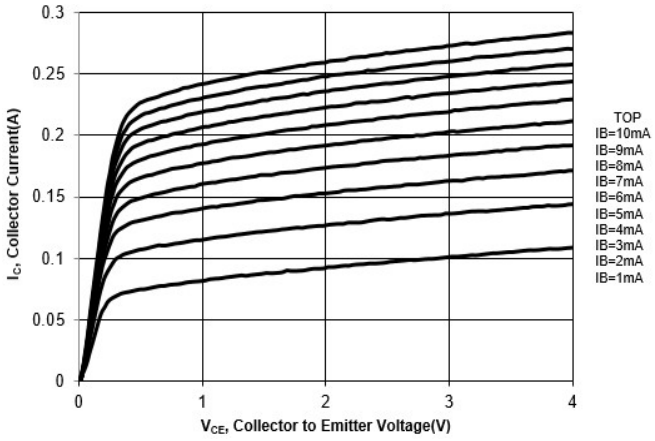


Fig. 2 Collector Current vs. Base to Emitter Voltage

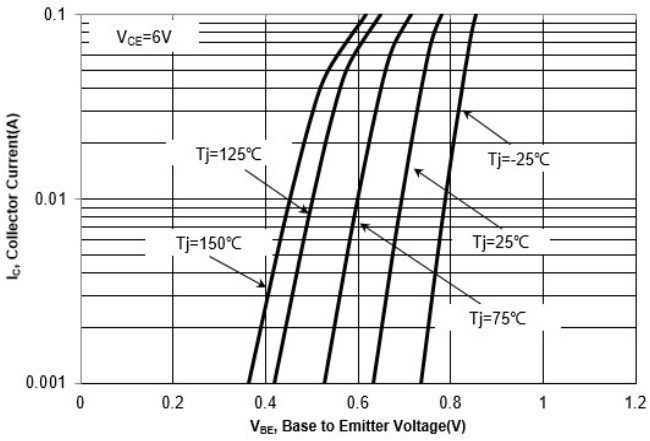


Fig. 3 DC Current Gain vs. Collector Current

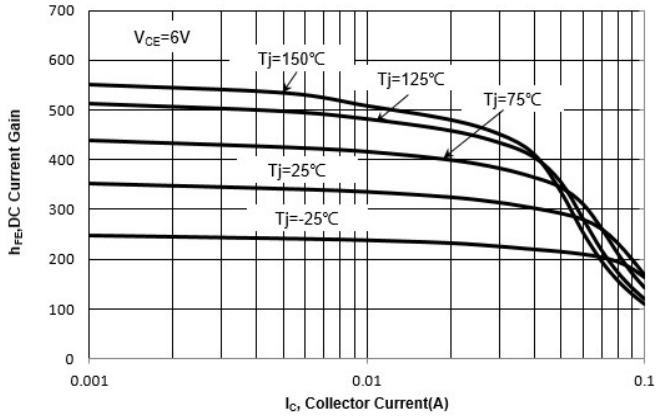


Fig. 4 V_{BESAT} vs. Collector Current

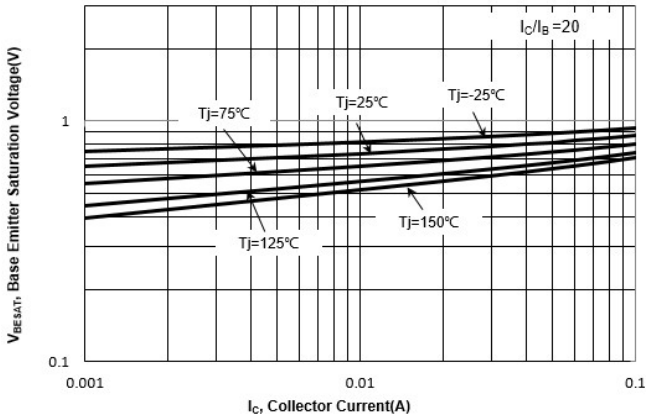


Fig. 5 V_{CESAT} vs. Collector Current

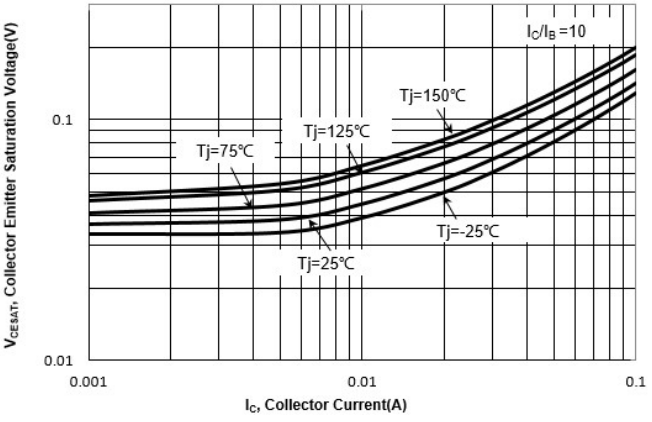
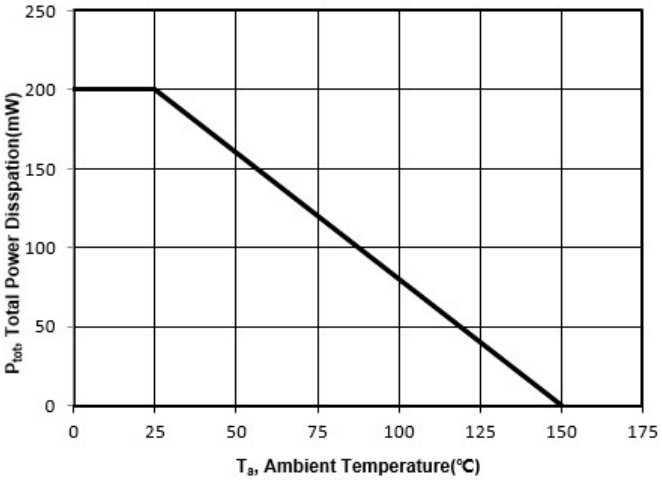


Fig. 7 Power Derating Curve



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