

TRANSISTOR (NPN)

FEATURES

Low voltage

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

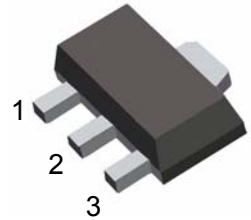
Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	30	V
V _{CE0}	Collector-Emitter Voltage	30	V
V _{EB0}	Emitter-Base Voltage	5	V
I _C	Collector Current -Continuous	1.5	A
P _C	Collector Power Dissipation	0.5	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

SOT-89

1. BASE

2. COLLECTOR

3. EMITTER



ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =1mA, I _E =0	30			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	30			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =1mA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =30V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			0.1	μA
DC current gain	h _{FE}	V _{CE} =2V, I _C =0.5A	100		320	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1.5A, I _B =30mA			2	V
Base-emitter voltage	V _{BE}	V _{CE} =2V, I _C =0.5A			1	V
Transition frequency	f _T	V _{CE} =2V, I _C =500mA		120		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			40	pF

CLASSIFICATION OF h_{FE}

Rank	O	Y
Range	100-200	160-320
Marking	GO	GY

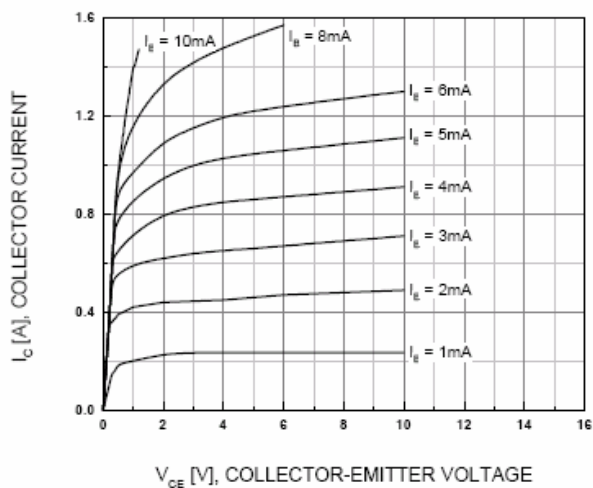


Figure 1. Static Characteristics

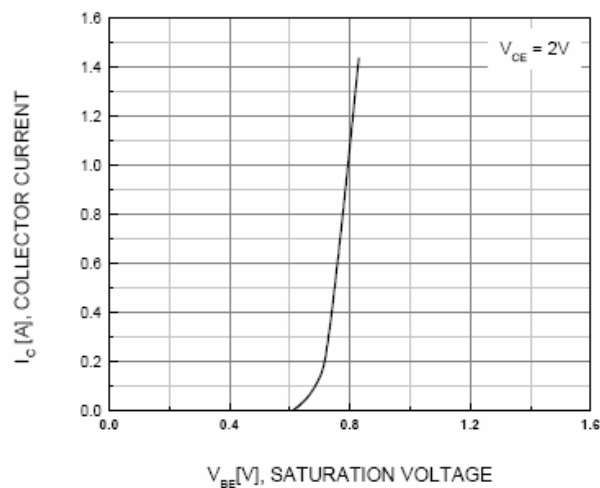


Figure 2. Base-Emitter On Voltage

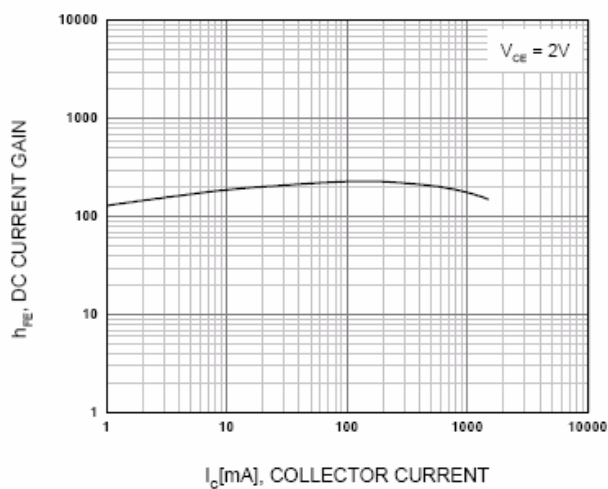


Figure 3. DC Current Gain

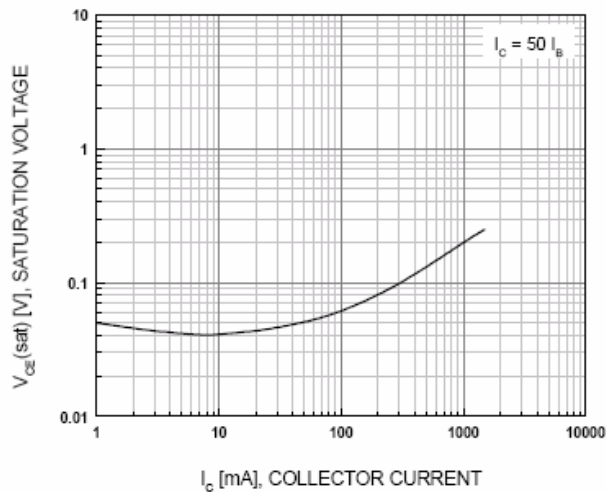


Figure 4. Collector-Emitter Saturation Voltage

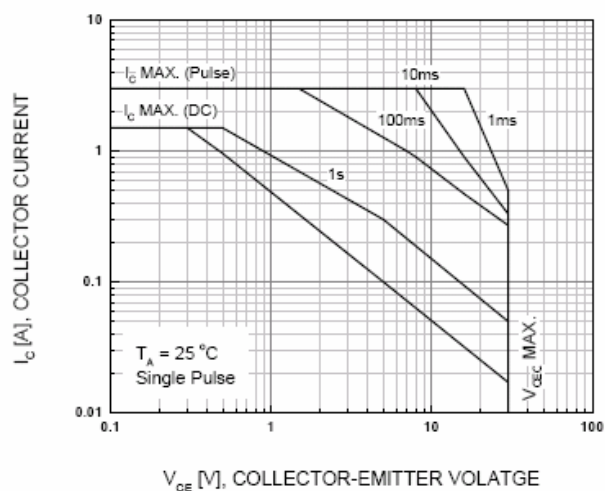


Figure 5. Safe Operating Area

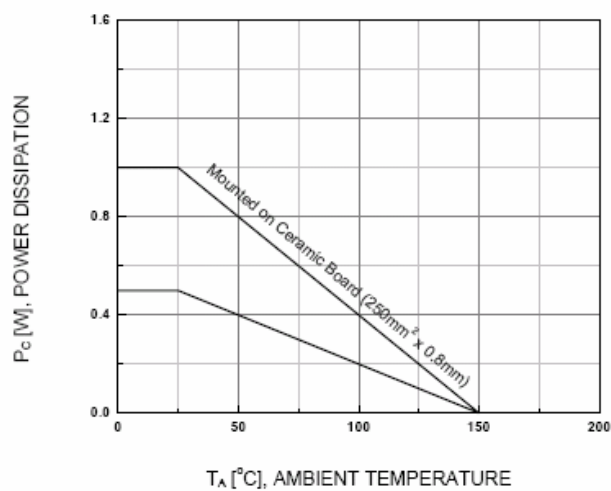


Figure 6. Power Derating

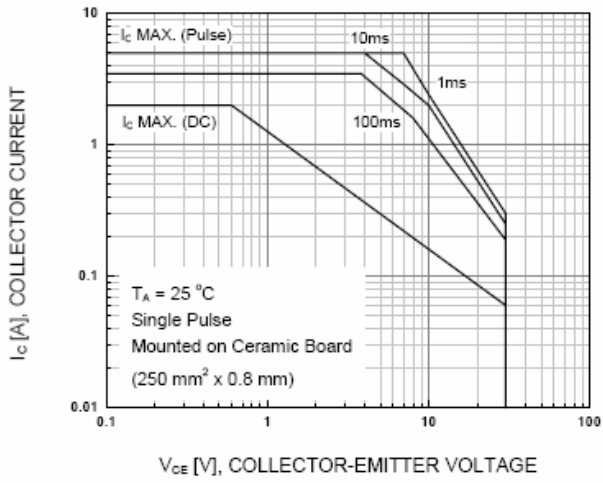


Figure 7. Safe Operating Area

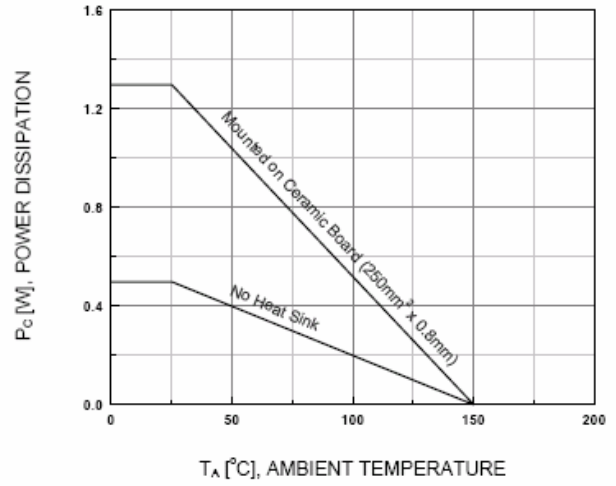


Figure 8. Power Derating