

NPN silicon planar high voltage transistor

Parameter	Value	Unit
V_{CEO}	150	V
I_C	1	A

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

Features

- 150 Volt V_{CEO}
- 1 Amp continuous current

Applications

- Color TV audio output, inverter

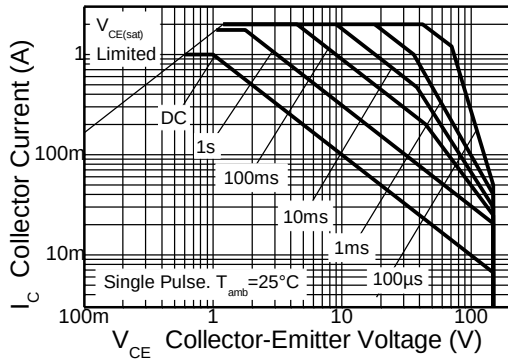
Absolute Maximum Ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	170	V
V_{CEO}	Collector-Emitter Voltage	150	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1	A
I_{CM}	Peak pulse current	2	A
I_B	Base current	200	mA
P_{tot}	Power dissipation at $T_a=25^\circ\text{C}$	1	mW
T_J	Junction Temperature	-65-150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65-150	$^\circ\text{C}$

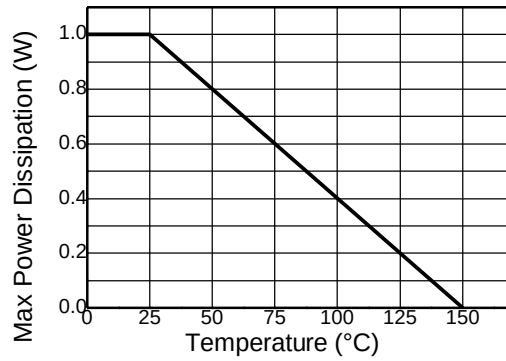
Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Max.	Unit	Conditions
Breakdown voltages	$V_{(BR)CBO}$	170		V	$I_C=100\mu\text{A}$
	$V_{CEO(sus)}$	150		V	$I_C=10\text{mA} (*)$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu\text{A}$
Collector cut-off currents	I_{CBO}, I_{CES}		100	nA	$V_{CB}=150\text{V}, V_{CE}=150\text{V}$
Emitter cut-off current	I_{EBO}		100	nA	$V_{EB}=4\text{V}$
Emitter saturation voltages	$V_{CE(sat)}$		0.2 0.3	V	$I_C=250\text{mA}, I_B=25\text{mA} (*)$ $I_C=500\text{mA}, I_B=50\text{mA} (*)$
	$V_{BE(sat)}$		1.0	V	$I_C=500\text{mA}, I_B=50\text{mA} (*)$
Base-emitter turn on voltage	$V_{BE(on)}$		1.0	V	$I_C=500\text{mA}, V_{CE}=10\text{V} (*)$
Static forward current transfer ratio	h_{FE}	100 100 50 10	300		$I_C=1\text{mA}, V_{CE}=10\text{V}$ $I_C=250\text{mA}, V_{CE}=10\text{V} (*)$ $I_C=500\text{mA}, V_{CE}=10\text{V} (*)$ $I_C=1\text{A}, V_{CE}=10\text{V} (*)$
Transition frequency	f_T	100		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V} f=100\text{MHz}$
Collector-base breakdown voltage	C_{obo}		10	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

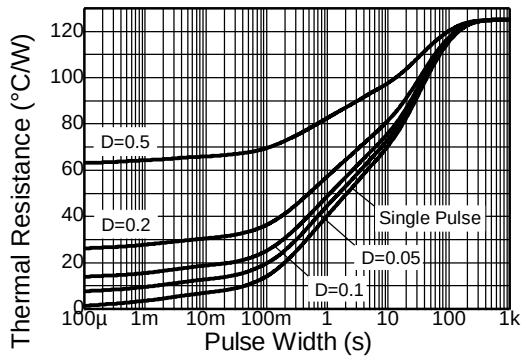
Typical Characteristics



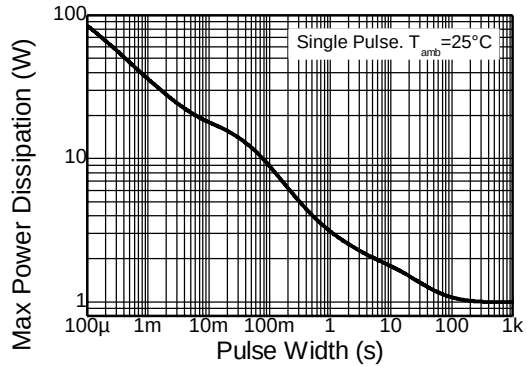
Safe Operating Area



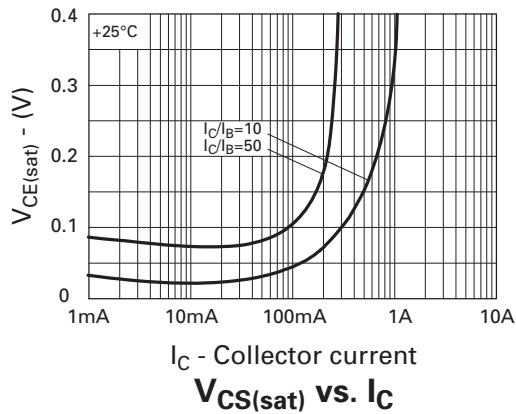
Derating Curve



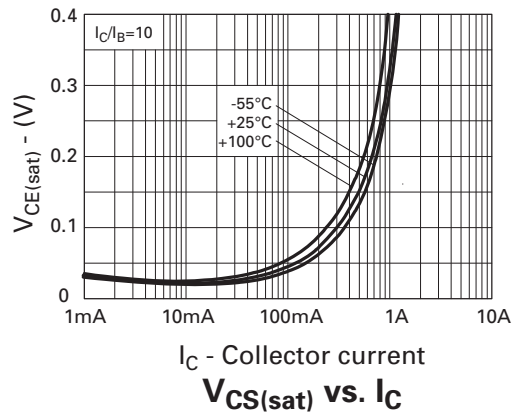
Transient Thermal Impedance



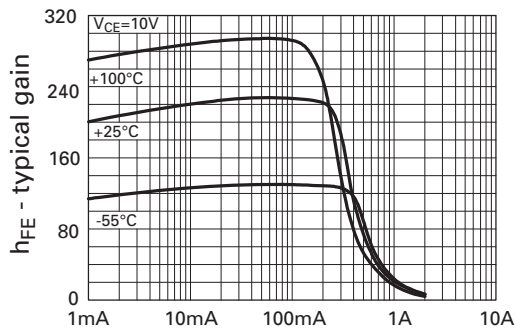
Power Dissipation



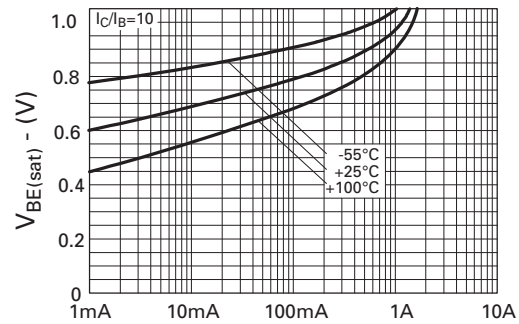
$V_{CE(sat)}$ vs. I_C



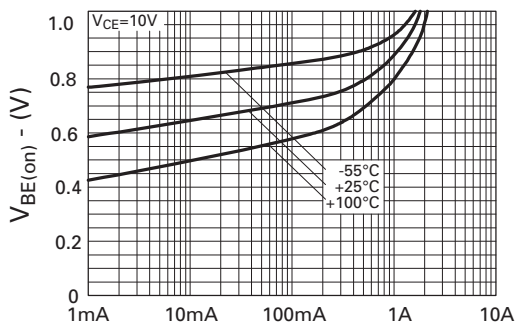
$V_{CE(sat)}$ vs. I_C



I_C - Collector current
 h_{FE} vs. I_C



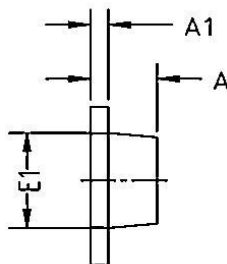
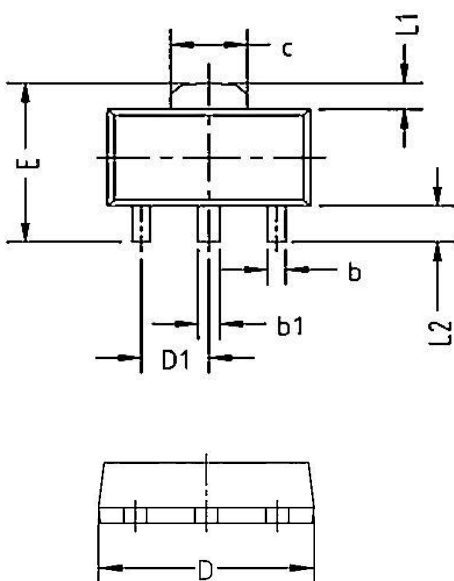
I_C - Collector current
 $V_{BE(sat)}$ vs. I_C



I_C - Collector current
 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions

SOT-89



COMMON DIMENSION(MM)			
PKG	SOT-89		
Symbol	MIN	MON	MAX
A	1.450	1.500	1.550
A1	0.350	0.400	0.450
b	0.350	0.400	0.48
b1	0.430	0.480	0.550
C	1.500	1.550	1.650
D	4.450	4.550	4.700
D1	1.470	1.500	1.550
E	4.100	4.200	4.300
E1	2.500	2.550	2.650
L1	0.650	0.700	0.750
L2	0.900	0.950	1.000

***Important Usage Information and Disclaimer**

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