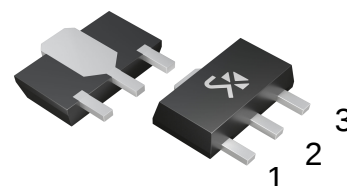


NPN Silicon Epitaxial Planar Transistor

Features

- World standard micro packaging.
- $V_{CE(sat)} V_{CE(sat)}=0.15\text{ V}$

SOT-89



1base 2collector 3emitter

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1.0	A
I_C	Collector Current -Continuous (Pulse) *	2.0	A
P_C	Collector Power Dissipation	2	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

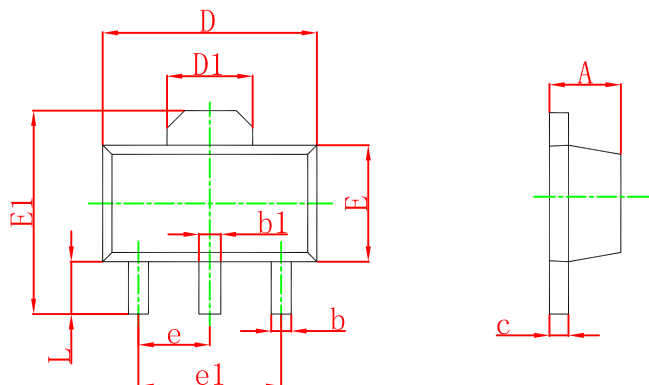
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Base emitter voltage*	V_{BE}	$V_{CE}=2\text{V}, I_C=10\text{mA}$	600		700	mV
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			100	nA
Collector cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			100	uA
DC current gain	h_{FE}	$V_{CE}=2\text{V}, I_C=-100\text{mA}$	135	290	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$		0.15	0.3	V
Base saturation voltage*	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$		0.9	1.2	V
Transition frequency	f_T	$V_{CE}=2\text{V}, I_E=100\text{mA},$	80	160		MHz
output capacitance	C_{Ob}	$V_{CE}=10\text{V}, I_E=0\text{ mA}, f=1.0\text{MHz}$		19		pF

h_{FE} Classification

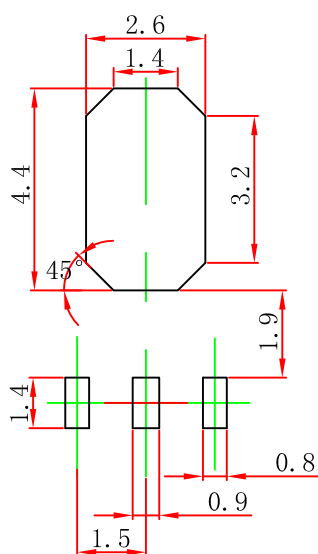
Marking	GM	GL	GK
h_{FE}	135-270	200-400	300-600

SOT-89 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

SOT-89 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.