

RoHS Compliant Product

**FEATURES**

Power dissipation

$P_{CM} : 500mW$  ( $T_{amb}=25^{\circ}C$ )

Collector current

$I_{CM} : -1 A$

Collector-base voltage

$V_{B(BR)CBO} : -30 V$

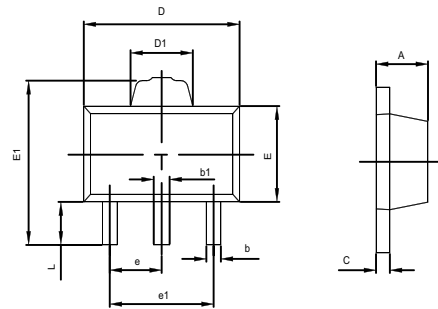
Operating and storage junction temperature range

$T_J, T_{stg} : -55^{\circ}C$  to  $+150^{\circ}C$

**SOT-89**



- 1.BASE
- 2.COLLECTOR
- 3.EMITTER



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	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-2mA, I_B=0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-20V, I_E=0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$			-0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=-10V, I_C=-500mA$	85		340	
	$h_{FE(2)}$	$V_{CE}=-5V, I_C=-1A$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500mA, I_B=-50mA$		-0.2	-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-500mA, I_B=-50mA$		-0.85	-1.2	V
Transition frequency	$f_T$	$V_{CE}=-10V, I_C=-50mA, f=200MHz$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$		20	30	pF

**CLASSIFICATION OF  $h_{FE(1)}$**

Rank	Q	R	S
Range	85-170	120-240	170-340
Marking	AQ	AR	AS

