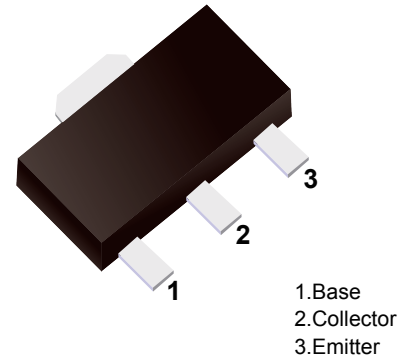


■ NPN Transistor

■ Features

- Low collector saturation voltage
- Excellent  $h_{FE}$  characteristics



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

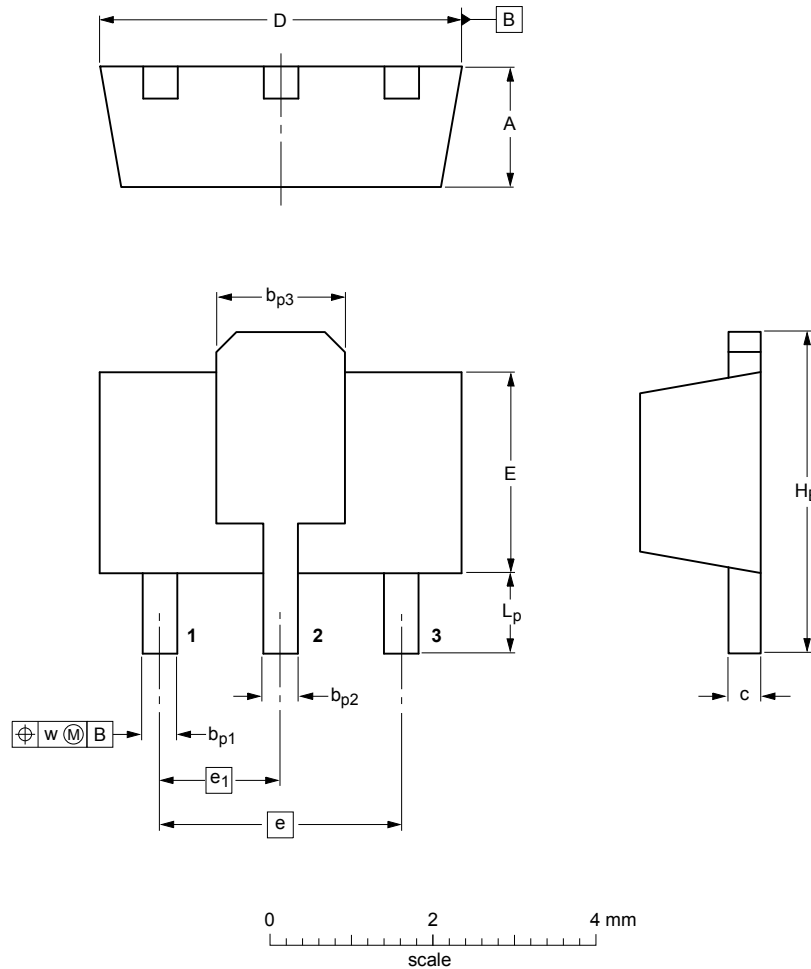
Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	30	V
Collector Emitter Voltage	$V_{CEO}$	30	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current - DC	$I_C$	1.5	A
Collector Power Dissipation	$P_C$	0.5	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$ , $I_C = 500\text{ mA}$	Current Gain Group O Y $h_{FE}$	100 160	- -	200 320	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	$I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	$I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CBO}$	30	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at $I_E = 1\text{ mA}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 1.5\text{ A}$ , $I_B = 30\text{ mA}$	$V_{CE(sat)}$	-	-	2	V
Base Emitter Voltage at $V_{CE} = 2\text{ V}$ , $I_C = 500\text{ mA}$	$V_{BE}$	-	-	1	V
Transition Frequency at $V_{CE} = 2\text{ V}$ , $I_C = 500\text{ mA}$	$f_T$	-	120	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	40	pF

Package Outline

SOT-89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p1</sub>	b <sub>p2</sub>	b <sub>p3</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-89	Tape/Reel, 7" reel	1000	EIA-481-1