

**DESCRIPTION**

The 2SB804-W, 2SB804-V, and 2SB804-U are available in the SOT-89 package.

ORDERING INFORMATION

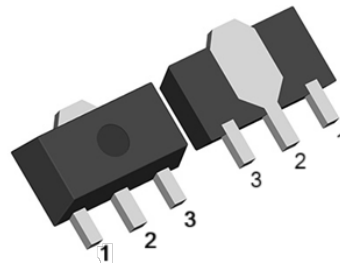
Package Type	Part Number
SOT-89	2SB804-W
	2SB804-V
	2SB804-U
SPQ	1,000pcs/Reel
AiT provides all RoHS Compliant Products	

h_{FE} CLASSIFICATION

Rank	Range
W	90 ~ 180
V	135 ~ 270
U	200 ~ 400

FEATURE

- World standard micro packaging: SOT-89.
- High collector base voltage: $V_{CBO} > -100V$
- Excellent DC current gain linearity.

PIN DESCRIPTION

SOT-89

PIN#	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^\circ C$, unless otherwise specified.

V_{CBO} , Collector to Base Voltage	-100 V
V_{CEO} , Collector to Emitter Voltage	-80 V
V_{EBO} , Emitter to Base Voltage	-2 V
I_C , Collector Current	-1 A
I_C , Collector Current(pulse) ⁽¹⁾	-1.5 A
P_T , Total Power Dissipation	2 W
T_J , Junction Temperature	150 °C
T_{stg} , Storage Temperature Range	-55 ~ +150 °C

(1) $PW \leq 10$ ms, duty cycle $\leq 50\%$

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**ELECTRICAL CHARACTERISTICS** $T_A=25^{\circ}\text{C}$ unless otherwise specified.

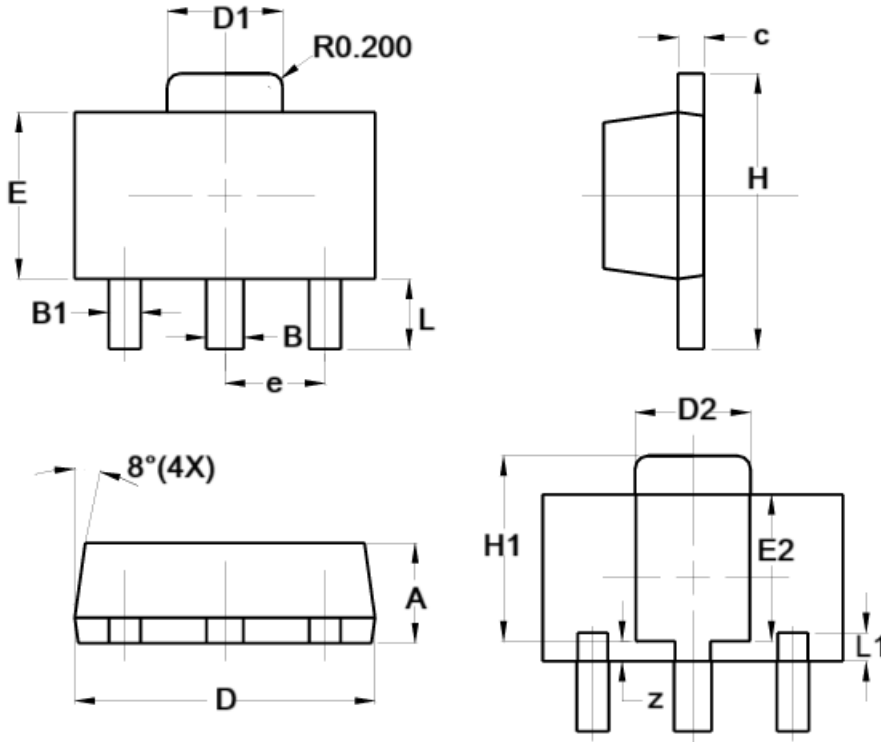
Parameter	Symbols	Conditions	Min.	Typ.	Max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -100\text{ V}, I_E = 0$	-	-	-100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	-	-	-100	nA
DC Current gain ⁽²⁾	h_{FE}	$V_{CE} = -2\text{ V}, I_C = -100\text{ mA}$	90	200	400	-
		$V_{CE} = -2\text{ V}, I_C = -500\text{ mA}$	25	80	-	
Collector Saturation Voltage ⁽²⁾	$V_{CE(sat)}$	$I_C = -500\text{ mA},$ $I_B = -50\text{ mA},$	-	-0.29	-0.5	V
Base Saturation Voltage ⁽²⁾	$V_{BE(sat)}$	$I_C = -500\text{ mA},$ $I_B = -50\text{ mA},$	-	-0.9	-1.5	V
Base-Emitter Voltage ⁽²⁾	V_{BE}	$V_{CE} = -10\text{ V}, I_C = -10\text{ mA}$	-600	-640	-700	V
Gain bandwidth product	f_T	$V_{CE} = -5\text{ V}, I_E = -10\text{ mA}$	-	80	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	-	26	-	pF

⁽²⁾ Pulsed: $PW \leq 350\text{ }\mu\text{s}$, duty cycle $\leq 2\%$



PACKAGE INFORMATION

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400



IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc. integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or server property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.