



**DESCRIPTION**

The 2SD1006 is available in SOT89-3 package

- High collector to emitter voltage:  $V_{CE0} > 100V$
- Audio Frequency Power Amplifier Application
- Complement to PNP type 2SB805

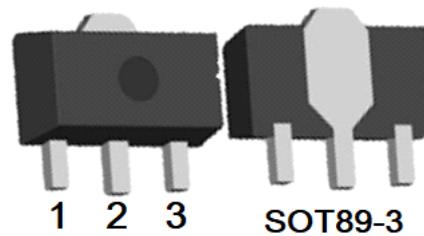
**MACHANICAL DATA**

- Case: SOT89-3

**ORDERING INFORMATION**

Package Type	Part Number
SOT89-3	2SD1006-HM
	2SD1006-HL
	2SD1006-HK
Note	SPQ: 1,000pcs/Reel
AiT provides all RoHS Compliant Products	

**PIN DESCRIPTION**



**h<sub>FE</sub> Classification**

h <sub>FE</sub>	HM	HL	HK
Range	90~180	135~270	200~400

PIN	PIN DESCRIPTION
1	BASE
2	COLLECTOR
3	EMITTER



## ABSOLUTE MAXIMUM RATINGS

T<sub>A</sub>=25°C, unless otherwise specified

Parameter	Symbol	Value	Units
Collector-Base Voltage	V <sub>CBO</sub>	100	V
Collector-Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	0.7	A
Collector Current(pulse)*	I <sub>C(pu)</sub>	1.2	A
Collector I Power Dissipation**	P <sub>C</sub>	2	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

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.

\*PW≤10ms,duty cycle≤50%

\*\*When mounted on ceramic substrate of 16cm<sup>2</sup> x 0.7mm

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub>=25°C, unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Base- emitter voltage <sup>1</sup>	V <sub>BE</sub>	550	620	650	mV
Collector cutoff current	I <sub>CBO</sub>	-	-	100	nA
Emitter cutoff current	I <sub>EBO</sub>	-	-	100	nA
DC current gain <sup>1</sup>	h <sub>FE</sub> *	45	200	-	-
		90	200	400	-
Collector-emitter saturation voltage <sup>1</sup>	V <sub>CE (sat)</sub>	-	0.3	0.6	V
Base-emitter saturation voltage*	V <sub>BE (sat)</sub>	-	0.9	1.5	V
Transition frequency	f <sub>T</sub>	-	10	-	pF
output capacitance	C <sub>ob</sub>	-	90	-	MHz

### \*h<sub>FE</sub> Classification

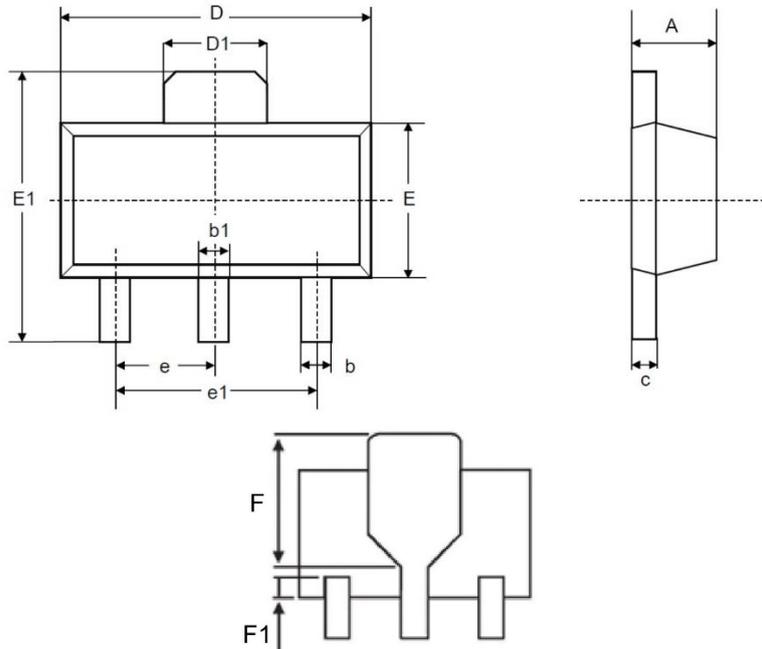
Part Number	2SD1006-HM	2SD1006-HL	2SD1006-HK
h <sub>FE</sub>	90~180	135~270	200~400

\*PW≤350μs, duty cycle≤2%



## PACKAGE INFORMATION

Dimension in SOT89-3 (Unit: mm)



Symbol	Min.	Max.
A	1.400	1.600
b	0.380	0.580
b1	0.430	0.630
c	0.340	0.540
D	4.400	4.600
D1	1.700	1.900
E	2.400	2.600
E1	3.900	4.100
F	2.500	2.700
F1	0.300	0.500
e	1.400	1.600
e1	2.900	3.100
L	0.900	1.200



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