



DESCRIPTION

The 2SD1007 is available in SOT-89 package

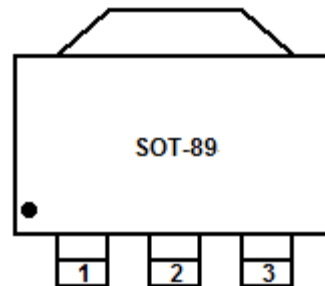
FEATURES

- High collector emitter voltage: $V_{CE0} > 120V$
- Available in SOT-89 package

ORDERING INFORMATION

Package Type	Part Number
SOT-89 SPQ: 1,000/Reel	2SD1007-R
	2SD1007-Q
	2SD1007-P
h_{FE}	2SD1007-R = 90~180
	2SD1007-Q = 135~270
	2SD1007-P = 200~400
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



1. BASE
2. COLLECTOR
3. EMITTER



ABSOLUTE MAXIMUM RATINGS

$T_A=25^{\circ}\text{C}$

V_{CBO} , Collector-Base Voltage	120V
V_{CEO} , Collector-Emitter Voltage	120V
V_{EBO} , Emitter-Base Voltage	5V
I_C , Collector Current	0.7A
$I_{C(pu)}$, Collector Current (pulse) ^{NOTE1}	1.2A
P_C , Collector Power Dissipation	2W
T_J , Junction Temperature	150°C
T_{STG} , Storage Temperature	-55°C ~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.

NOTE1: $PW \leq 10\text{ms}$, duty cycle $\leq 50\%$

ELECTRICAL CHARACTERISTICS

$T_A=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Base-Emitter Voltage ^{NOTE2}	V_{BE}	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	550	620	650	mV
Collector Cutoff Current	I_{CBO}	$V_{CB}=120\text{V}$, $I_E=0$	-	-	100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$	-	-	100	nA
DC Current Gain ^{NOTE2}	h_{FE}	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$	90	200	400	
		$V_{CE}=1\text{V}$, $I_C=5.0\text{mA}$	45	200	-	
Collector- Emitter Saturation Voltage ^{NOTE2}	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$	-	0.3	0.6	V
Base-Emitter Saturation Voltage ^{NOTE2}	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$	-	0.9	1.5	V
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1.0\text{MHz}$	-	10	-	pF
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_E=-10\text{mA}$	-	90	-	MHz

NOTE2: $PW \leq 350\mu\text{s}$, duty cycle $\leq 2\%$

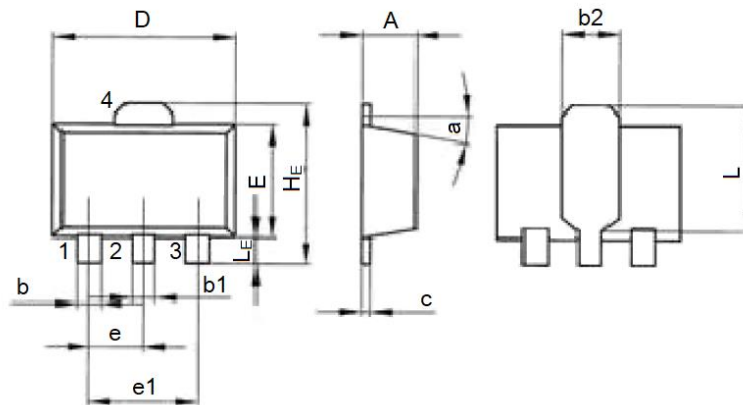
• h_{FE} Classification

	2SD1007-R	2SD1007-Q	2SD1007-P
h_{FE}	90~180	135~270	200~400



PACKAGE INFORMATION

Dimension in SOT-89 (Unit: mm)



Symbol	Min	Max
A	1.4	1.6
b	0.35	0.55
b1	0.4	0.65
b2	1.6 TYP	
c	0.35	0.45
D	4.4	4.6
E	2.35	2.55
e	1.5 TYP	
e1	3.0 TYP	
H _E	4.15 TYP	
L	2.7 TYP	
L _E	1.0 TYP	
α	5°	



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