

1N4001HC THRU 1N4007HC-AH

Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

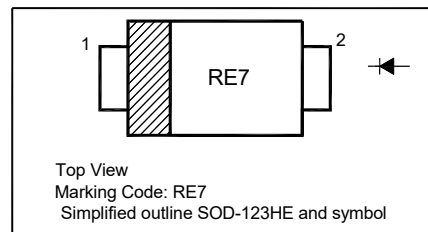
Forward Current - 1 A

Features

- AEC-Q101 Qualified
- Halogen and Antimony Free(HAF), RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings and Electrical characteristics

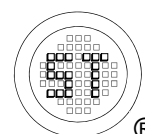
Ratings at 25°C ambient temperature unless otherwise specified. Single phase half wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	1N4001HC	1N4002HC	1N4003HC	1N4004HC	1N4005HC	1N4006HC	1N4007HC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_a = 65^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	180							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							$^\circ\text{C}$

¹⁾ Thermal resistance from junction to ambient at FR-4 Epoxy PCB with copper mounting pad area of 2.2 mm².

Characteristics at $T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Typ.	Max.	Unit
Instantaneous Forward Voltage at $I_F = 1\text{ A}$	V_F	-	1.1	V
DC Reverse Current at Rated DC Blocking Voltage $T_a = 25^\circ\text{C}$	I_R	-	5	μA
$T_a = 125^\circ\text{C}$		-	50	
Junction Capacitance at $V_R = 4\text{ V DC}$, $f = 1\text{ MHz}$	C_j	4	-	pF



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Electrical characteristic curves

Fig 1. Forward Current Derating Curve

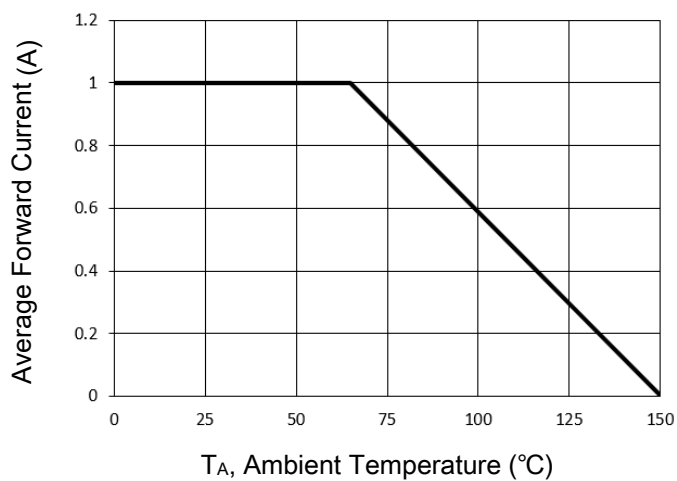


Fig 2. Forward Characteristic Curve

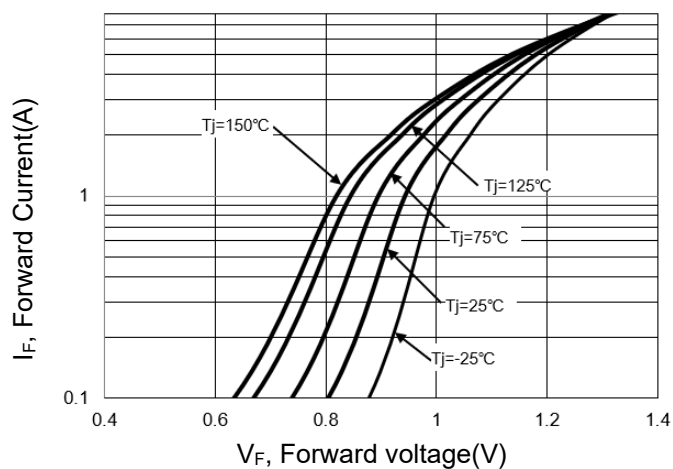


Fig 3. Reverse Characteristic Curve

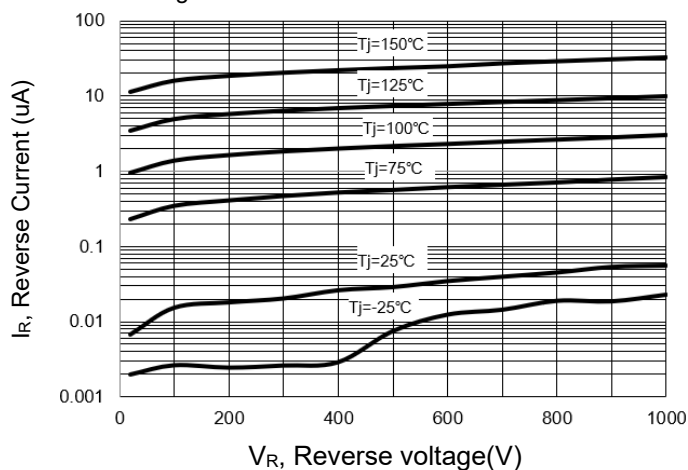
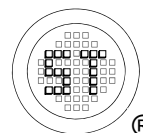
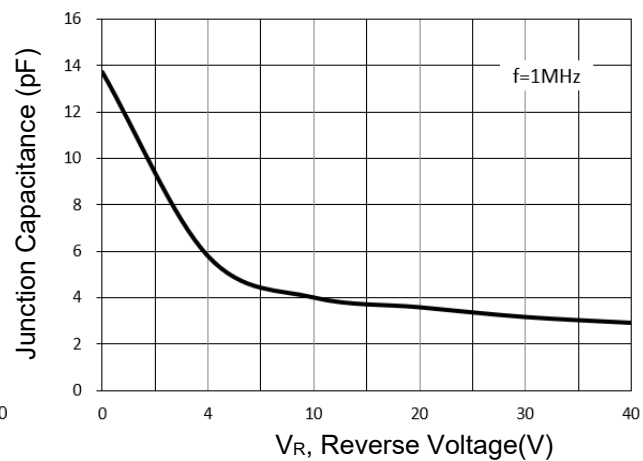


Fig 4. Junction Capacitance

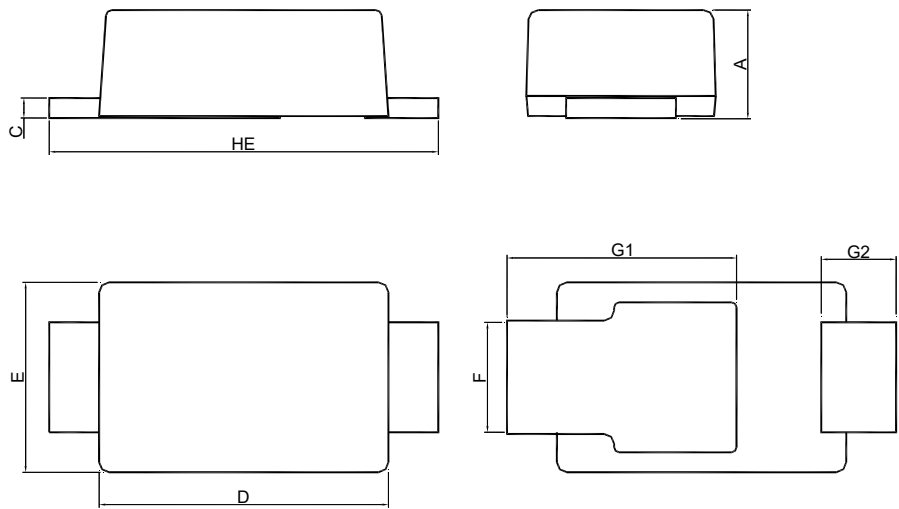


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PACKAGE OUTLINE

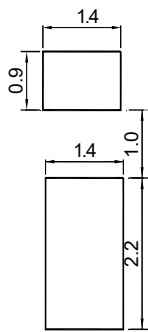
Plastic surface mounted package; 2 leads

SOD-123HE



UNIT	A	C	D	E	F	G1	G2	H _E
mm	1.08 0.88	0.2 0.1	2.9 2.6	1.9 1.7	1.1 0.8	2.3 1.9	0.75 0.55	3.9 3.5

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123HE	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" III " = Cathode line
" RE7 " = Part No.
" • " = HAF (Halogen and Antimony Free)
Font type: Arial

