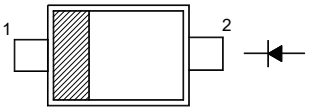
Silicon Epitaxial Planar Switching Diode

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-523 and symbol

Features

- Fast switching speed
- Ultra-small surface mount package
- For general purpose switching applications
- AEC-Q101 Qualified
- Halogen and Antimony Free(HAF), RoHS compliant

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	80	V
Average Rectified Forward Current	$I_{F(AV)}$	125	mA
Forward Continuous Current	I_{FM}	250	mA
Non-repetitive Peak Forward Surge Current at t = 1 μs at t = 100 ms	I_{FSM}	2 1	A
Power Dissipation	P_D	150	mW
Operating Junction Temperature Range	T_j	- 65 to + 150	℃
Storage Temperature Range	T_{stg}	- 65 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1)]	$R_{\theta JA}$	833	℃/W

[1)] Device mounted on FR-4 PCB with minimum recommended pad layout.

Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at I_R = 1 μA	$V_{(BR)R}$	80	-	V
Forward Voltage at I_F = 1 mA at I_F = 10 mA at I_F = 50 mA at I_F = 150 mA	V_F	 - - - -	 0.715 0.855 1 1.25	 V
Peak Reverse Current at V_R = 75 V at V_R = 20 V at V_R = 75 V, T_J = 150 °C at V_R = 25 V, T_J = 150 °C	I_R	 - - - -	 1 25 50 30	 μA nA μA μA
Total Capacitance at V_R = 0 V, f = 1 MHz	C_T	-	2	pF
Reverse Recovery Time at I_F = 10 mA, I_{rr} = 0.1 X I_R, V_R = 6 V, R_L = 100 Ω	t_{rr}	-	4	ns

Electrical Characteristics Curves

Fig 1. Power Derating Curve

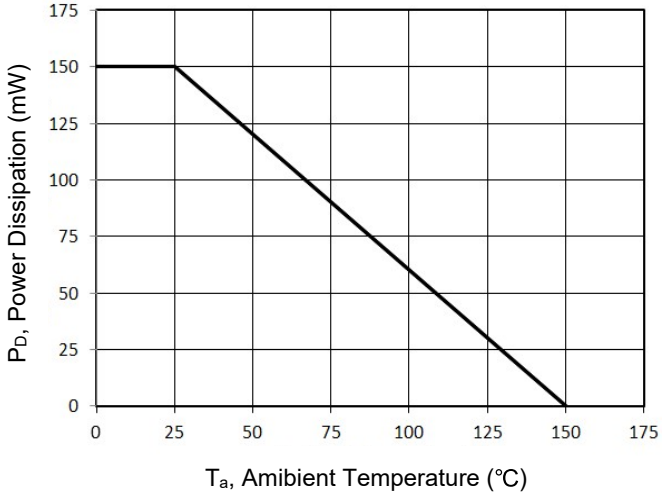


Fig 2. Capacitance Characteristics

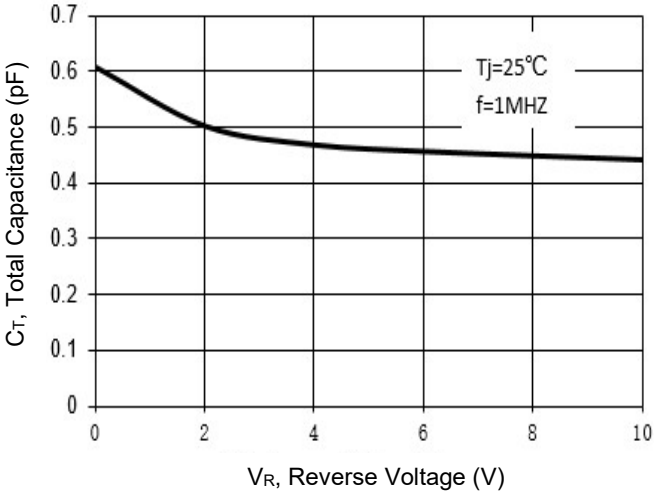


Fig 3. Reverse Characteristics

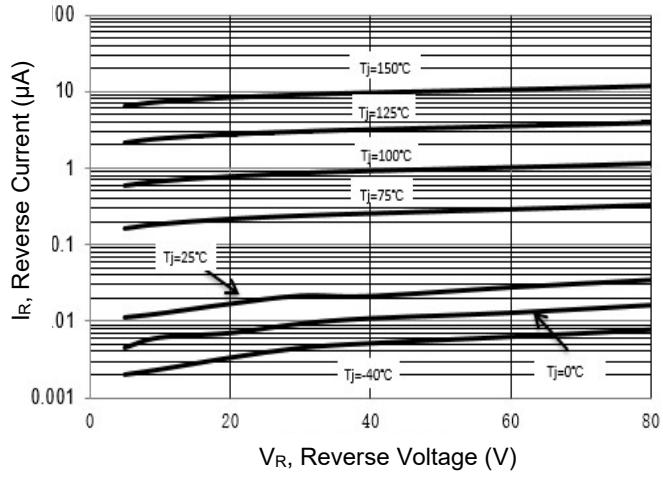
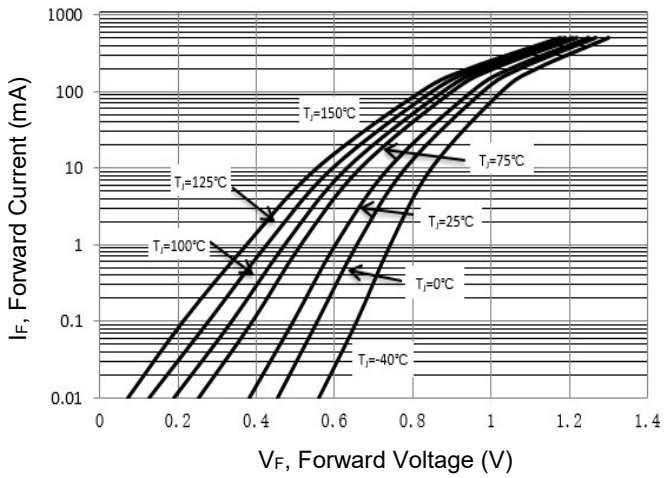
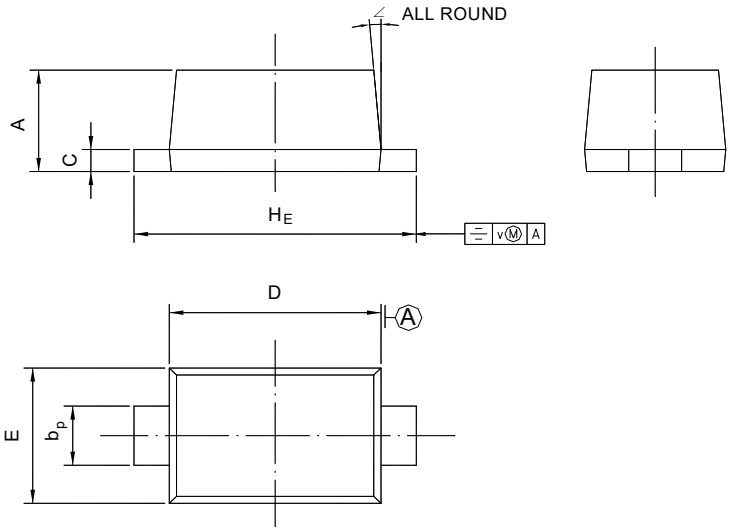


Fig 4. Forward Characteristics

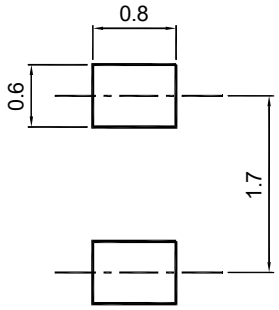


PACKAGE OUTLINE
Plastic surface mounted package **SOD-523**



UNIT	A	b_p	C	D	E	H_E	V	∠
mm	0.70 0.60	0.4 0.3	0.135 0.100	1.25 1.15	0.85 0.75	1.7 1.5	0.1	5°

Recommended Soldering Footprint

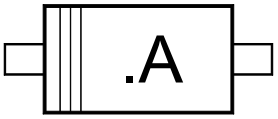


Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-523	8	4 ± 0.1	0.157 ± 0.004	178	7	4,000

Marking information

" A " = Part No.
" III " = Cathode line
" • " = Automotive-grade
Font type: Arial



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