

RoHS Compliant Product

A suffix of "-C" specifies halogen-free and RoHS Compliant

FEATURES

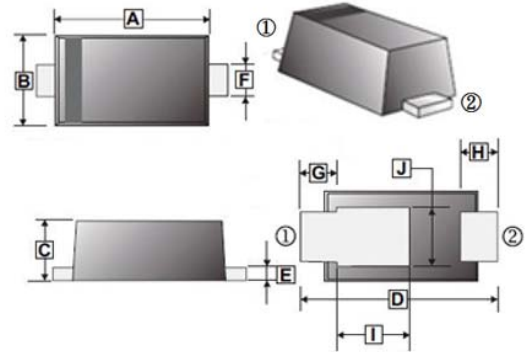
- Heatsink Structure
- Low Profile, Typical Thickness 0.8mm
- Moisture Sensitivity: Level 1, Per J-STD-020
- High Temperature Soldering Guaranteed: 260°C/10 Seconds

MARKING

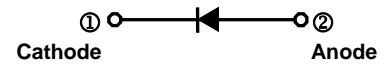


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Cathode

SOD-123DT



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.9	3.1	F	0.85	1.05
B	1.9	2.1	G	0.6 REF.	
C	0.75	0.9	H	0.4	0.85
D	3.5	3.9	I	1.66 REF.	
E	0.1	0.25	J	1.3	1.7



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123DT	3K	7 inch

ORDER INFORMATION

Part Number	Type
SM4001DT~SM4007DT	Lead (Pb)-free
SM4001DT-C~SM4007DT-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Part Number							Unit	
		SM 4001DT	SM 4002DT	SM 4003DT	SM 4004DT	SM 4005DT	SM 4006DT	SM 4007DT		
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	I _F	1							A	
Peak Forward Surge Current @8.3ms Single Half Sine-Wave Superimposed on Rate Load	I _{FSM}	40							A	
Rating for Fusing (t<8.3ms)	I ² t	7							A ² S	
Maximum Instantaneous Forward Voltage @I _F =1A	V _F	T _A =25°C	1							V
		T _A =125°C	0.88							
Maximum DC Reverse Current @Rated DC Blocking Voltage	I _R	T _A =25°C	5							μA
		T _A =125°C	50							
Typical Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1A I _{rr} =0.25A	1.5							μS
Typical Junction Capacitance	C _J	4V, 1MHz	6.5							pF
Typical Thermal Resistance from Junction-Ambient ¹	R _{θJA}	63							°C/W	
Typical Thermal Resistance from Junction-Case ²	R _{θJC}	39								
Typical Thermal Resistance from Junction-Lead ¹	R _{θJL}	9								
Operating Junction and Storage Temperature	T _J , T _{STG}	-55~150							°C	

Notes:

1. The thermal resistance from junction to ambient or lead, mounted on P.C.B with 5×5mm copper pads, 2 OZ, FR4 PCB.
2. The thermal resistance from junction to case, mounted on P.C.B with recommended copper pads, 2 OZ, FR4 PCB.

CHARACTERISTIC CURVES

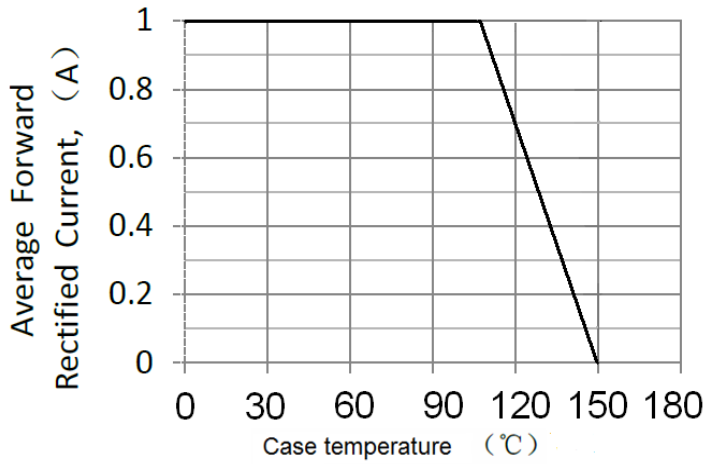


Figure 1. Forward Current Derating Curve

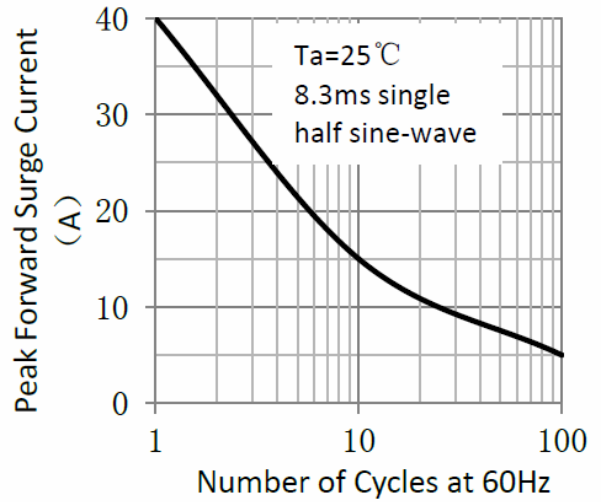


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

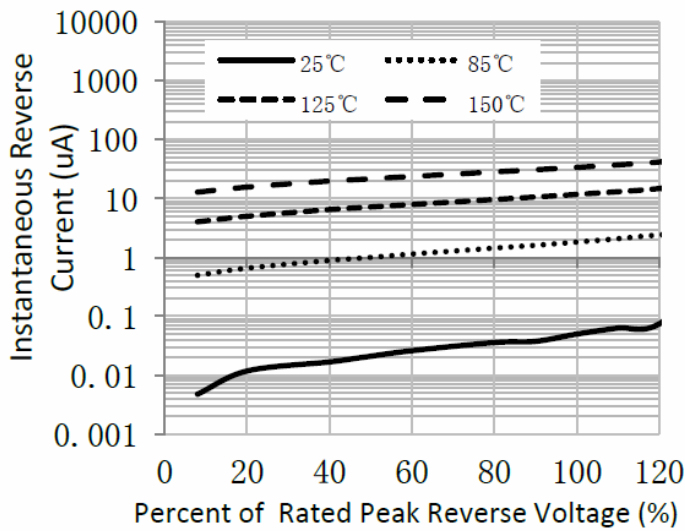


Figure 3. Typical Reverse Characteristics

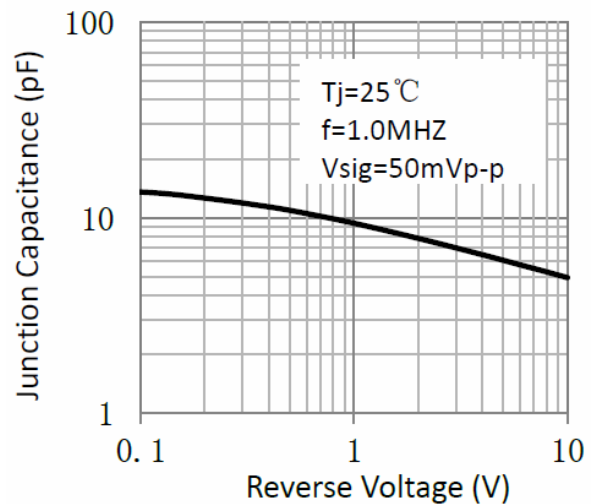


Figure 4. Typical Junction Capacitance

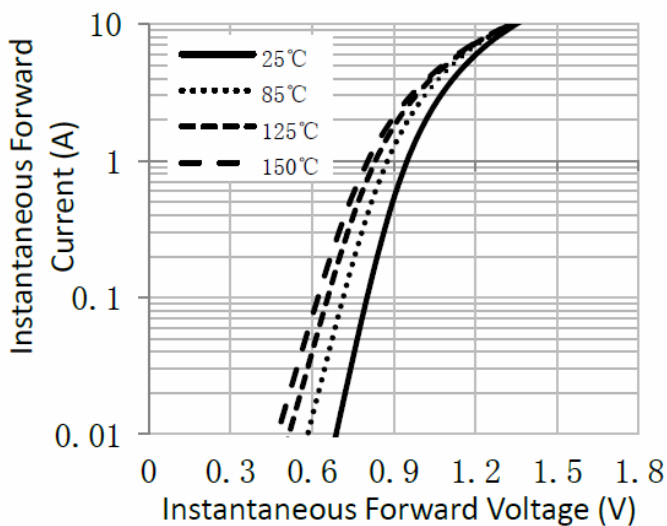


Figure 5. Typical Instantaneous Forward Characteristics