Elektronische Bauelemente

SM140DTCR

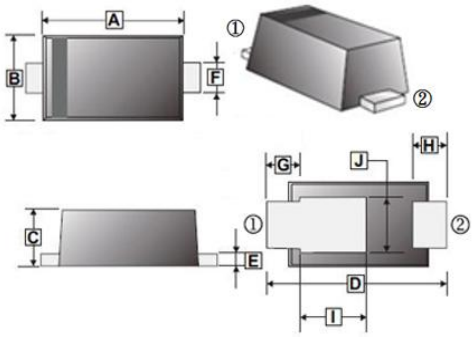
Voltage 40V, 1.0Amp
Surface Mount Schottky Barrier Rectifiers

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

FEATURES

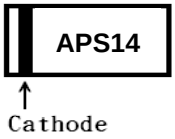
- Heatsink Structure
- Low Profile, Typical Thickness 0.8mm
- Super Low V_F Schottky barrier diodes
- Moisture Sensitivity: Level 1, Per J-STD-020
- High Temperature Soldering Guaranteed: 260°C/10 Seconds
- AEC-Q101 Qualified

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

MARKING

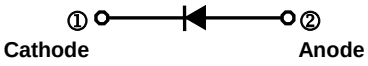


PACKAGE INFORMATION

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

ORDER INFORMATION

Part Number	Type
SM140DTCR	Lead (Pb)-free
SM140DTCR-C	Lead (Pb)-free and Halogen-free



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

Parameter		Symbol	Part Number	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	40	V
Maximum RMS Voltage		V_{RMS}	28	
Maximum DC Blocking Voltage		V_{DC}	40	
Minimum Breakdown Voltage @I_R=1mA		V_{BR}	40	
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}	30	A
Rating for Fusing (t<8.3ms)		I^2t	4	A^2S
Maximum Instantaneous Forward Voltage	I_F=1A, T_A=25°C	V_F	0.5	V
	I_F=1A, T_A=75°C		0.5	
Maximum DC Reverse Curren @DC Blocking Voltage	T_A=25°C	I_R	50	uA
	T_A=75°C		1	mA
Typical Junction Capacitance	4V, 1MHz	C_J	51.2	pF
Typical Thermal Resistance from Junction to Ambient [1]		$R_{\theta JA}$	65	°C/W
Typical Thermal Resistance from Junction to Case [2]		$R_{\theta JC}$	35	
Typical Thermal Resistance from Junction to Lead [1]		$R_{\theta JL}$	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

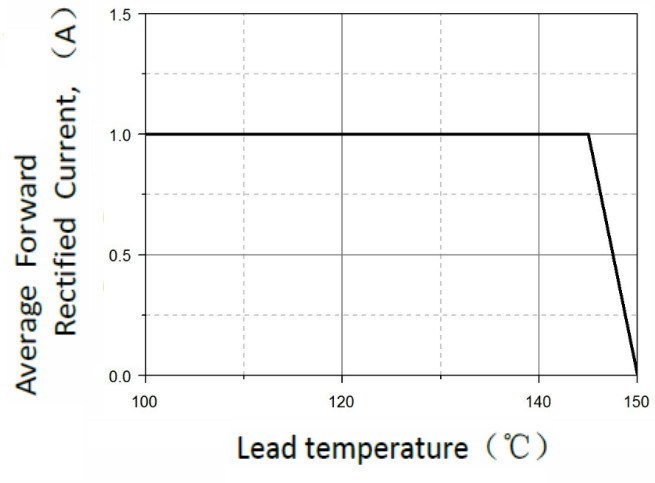


Figure 1.Forward Current Derating Curve

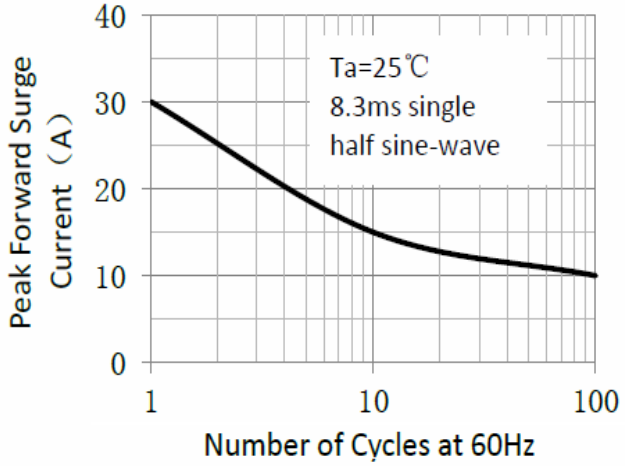


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

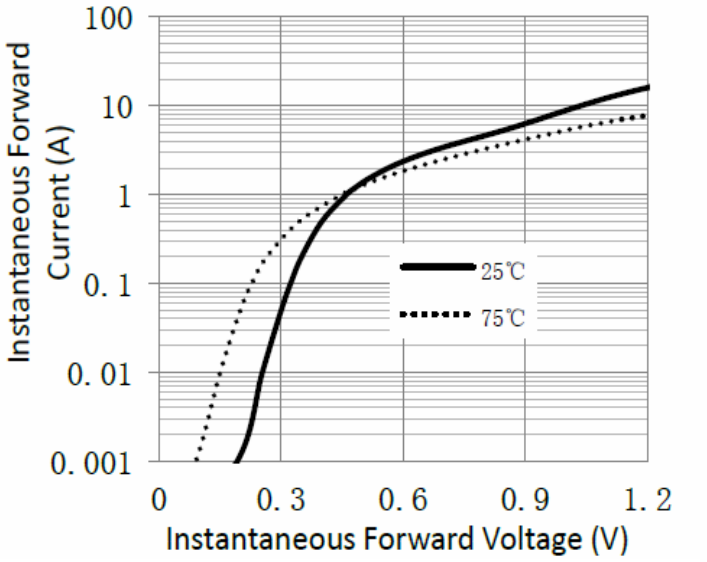


Figure 3. Typical Instantaneous Forward Characteristics

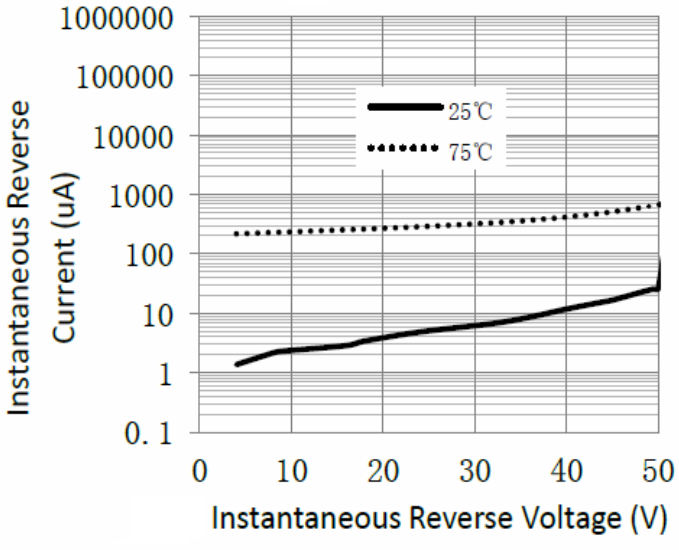


Figure 4. Typical Reverse Characteristics

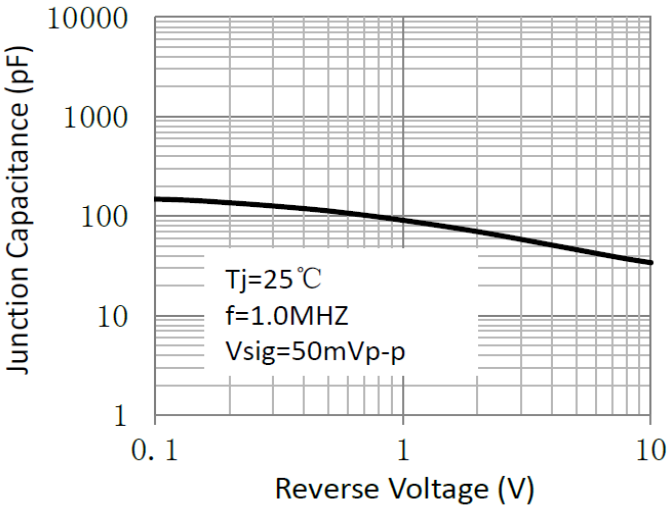


Figure 5. Typical Junction Capacitance