

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

**FEATURES**

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Epitaxial construction

**MECHANICAL DATA**

- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Mounting position: Any

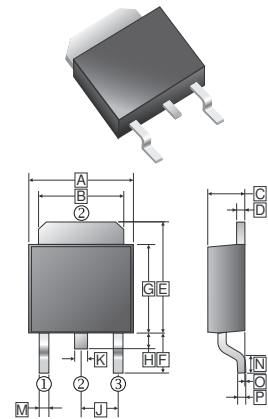
**PACKAGE INFORMATION**

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

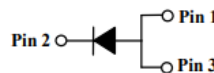
**ORDER INFORMATION**

Part Number	Type
SM10150DS1	Lead (Pb)-free
SM10150DS1-C	Lead (Pb)-free and Halogen-free

**TO-252 (D-Pack)**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.3	6.9	J	2.3 REF.	
B	4.95	5.53	K	0.89 REF.	
C	2.1	2.5	M	0.45	1.14
D	0.4	0.9	N	1.55 Typ.	
E	6	7.7	O	0	0.15
F	2.90 REF.		P	0.58 REF.	
G	5.4	6.4			
H	0.6	1.2			



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS** (Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load. For capacitive load, de-rate current by 20%.)

Parameter	Symbol	Rating	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	150	V
Working Peak Reverse Voltage	$V_{RMS}$	150	V
Maximum DC Blocking Voltage	$V_{DC}$	150	V
Maximum Average Forward Rectified Current	$I_F$	10	A
Peak Forward Surge Current, 8.3 ms single half sine-wave Superimposed on rated load (JEDEC method)	$I_{FSM}$	150	A
Thermal Resistance from Junction to Case <sup>1</sup>	$R_{\theta JC}$	6	°C / W
Voltage Rate Of Change (Rated $V_R$ )	$dv / dt$	10000	V / $\mu s$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	°C

**ELECTRICAL CHARACTERISTICS**

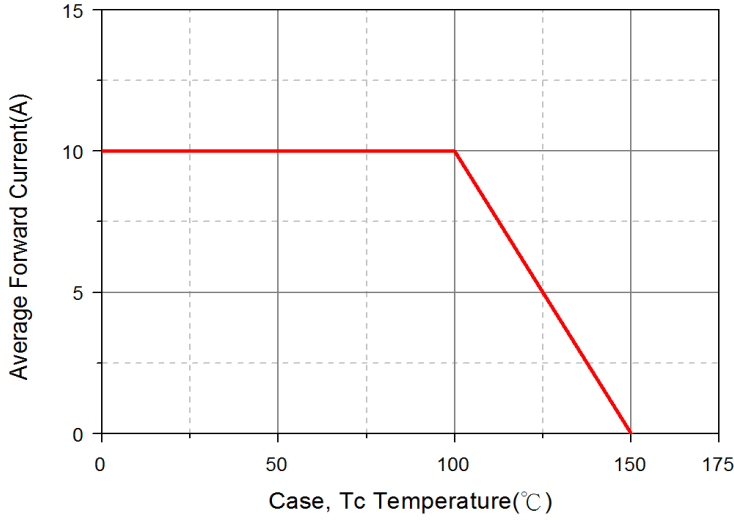
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Forward Voltage	$V_F$	0.75	0.8	V	$I_F=6A, T_A=25^\circ C$
		-	0.86		$I_F=10A, T_A=25^\circ C$
		-	0.73		$I_F=10A, T_A=125^\circ C$
Peak Reverse Current at Rated DC Blocking Voltage	$I_R$	-	0.02	mA	$T_A=25^\circ C$
		-	5		$T_A=125^\circ C$
Typical Junction Capacitance <sup>2</sup>	$C_J$	160	-	pF	

Notes:

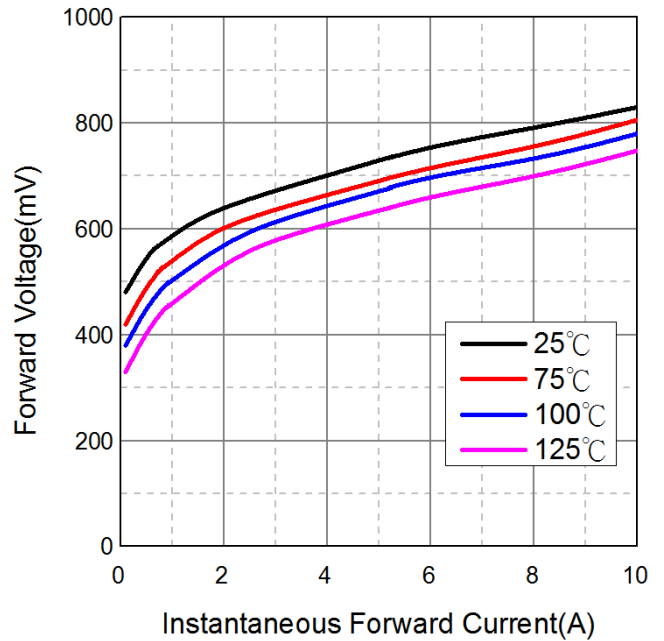
1. Surface mounted on 2.5cm x 2.5cm x 0.5mm copper pad area.
2. Measured at 1MHz and applied reverse voltage of 5.0V D.C.

**CHARACTERISTIC CURVES**

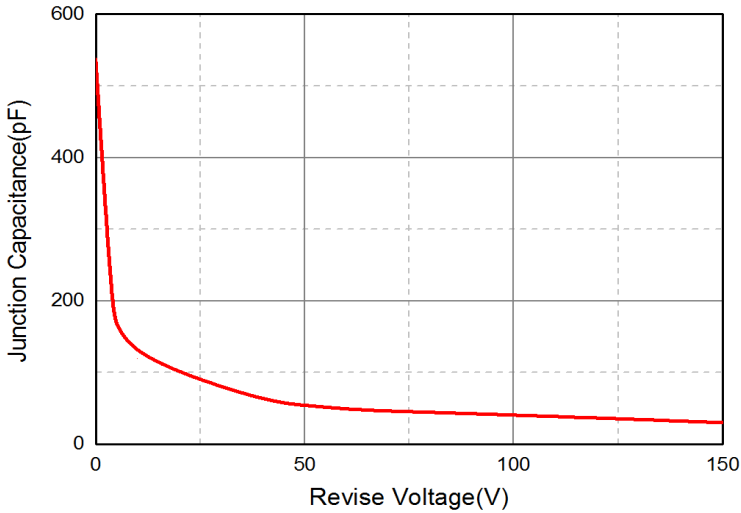
Typical Forward Current Derating Curve



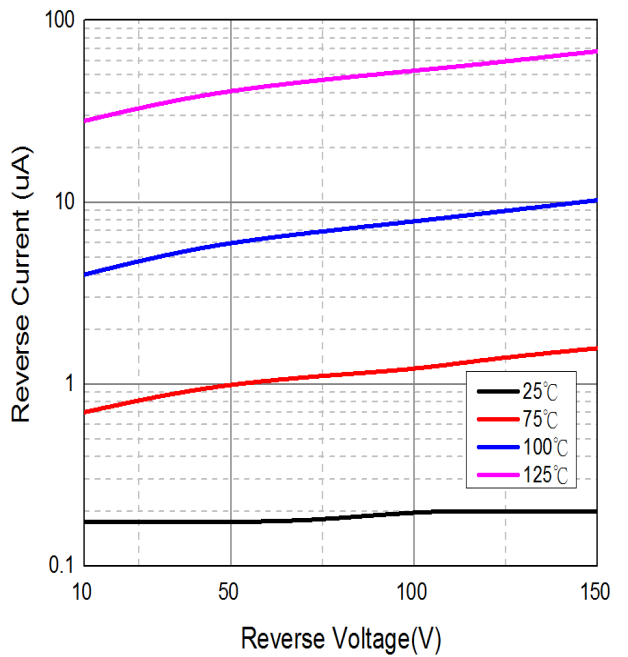
Typical Forward Characteristic



Typical Junction Capacitance



Typical Reverse Characteristic



Maximum Non- Repetitive Forward Surge Current

