

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

FEATURES

- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Epitaxial Construction

MECHANICAL DATA

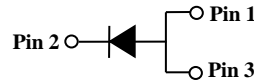
- Case: Molded Plastic
- Epoxy: UL 94V-0 Rate Flame Retardant
- Lead: Lead Solderable per MIL-STD-202 Method 208 Guaranteed
- Polarity: As Marked
- Mounting Position: Any

PACKAGE INFORMATION

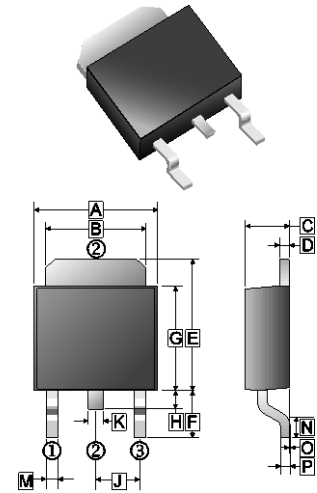
Package	MPQ	Leader Size
TO-252	2.5K	13 inch

ORDER INFORMATION

Part Number	Type
SM10200DS1-C	Lead (Pb)-free and Halogen-free



TO-252 (D-Pack)



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.30	6.90	J	2.30	REF.
B	4.95	5.53	K	0.89	REF.
C	2.10	2.50	M	0.45	1.14
D	0.40	0.90	N	1.55	TYP.
E	6.00	7.70	O	0	0.15
F	2.90	REF.	P	0.58	REF.
G	5.40	6.40			
H	0.60	1.20			

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 Repetitive Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS Voltage	V_{RMS}	140	V
Maximum DC Blocking Voltage	V_{DC}	200	V
Maximum Average Forward Rectified Current	I_F	10	A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	180	A
Typical Thermal Resistance ³	$R_{\theta JA}$	95.8	°C/W
Typical Thermal Resistance ²	$R_{\theta JC}$	10	
Operating & Storage Temperature Range	T_J, T_{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS

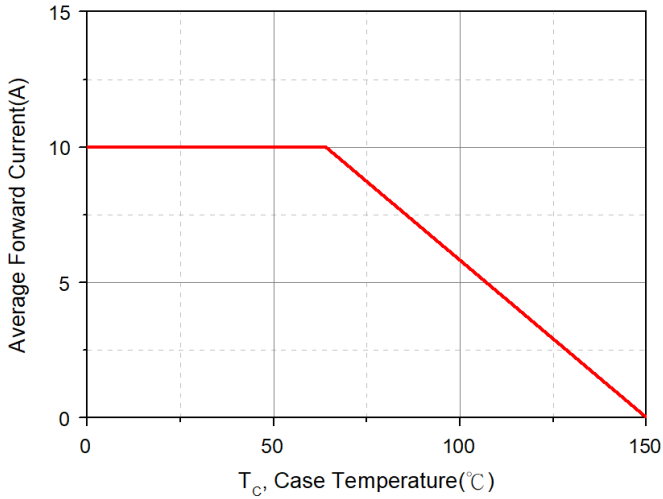
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	V_F	0.79	-	V	$I_F=5A, T_J=25^\circ C$
		0.86	0.92		$I_F=10A, T_J=25^\circ C$
		0.73	-		$I_F=10A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage ⁴	I_R	-	0.2	mA	$T_J=25^\circ C$
		-	20		$T_J=100^\circ C$
Typical Junction Capacitance ¹	C_J	250	-	pF	

Notes:

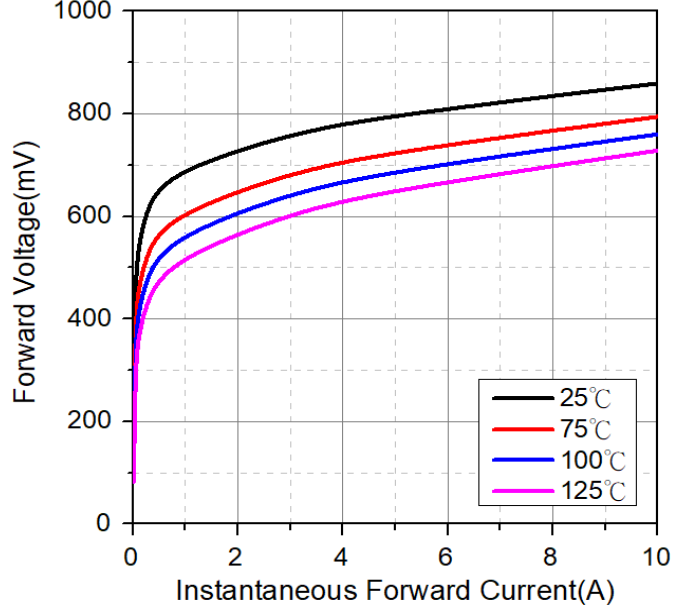
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Thermal Resistance Junction to Case. FR-4 Board Heat sink size: 10*10*0.2mm.
3. Thermal Resistance Junction to Ambient.
4. Pulse Test: Pulse Width $\leq 300\mu s$ Duty Cycle $\leq 2\%$

RATINGS AND CHARACTERISTIC CURVES

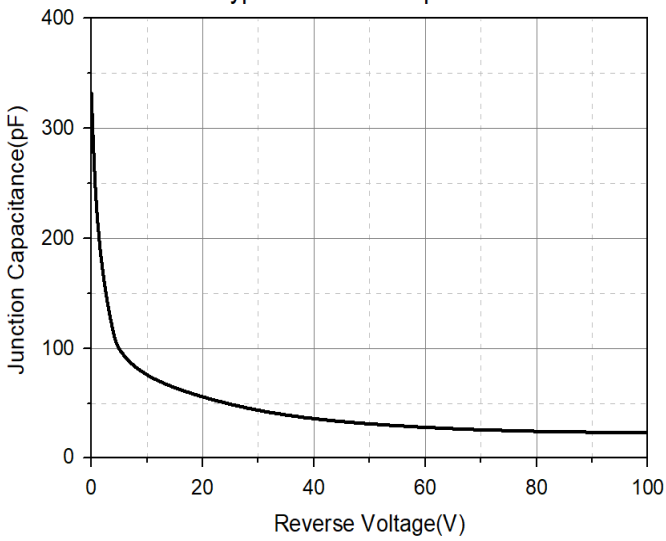
Typical Forward Current Derating Curve



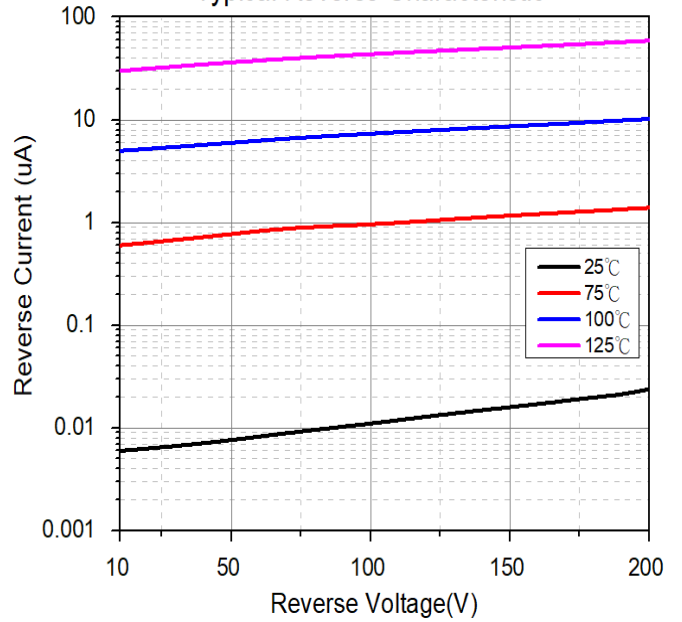
Typical Forward Characteristic



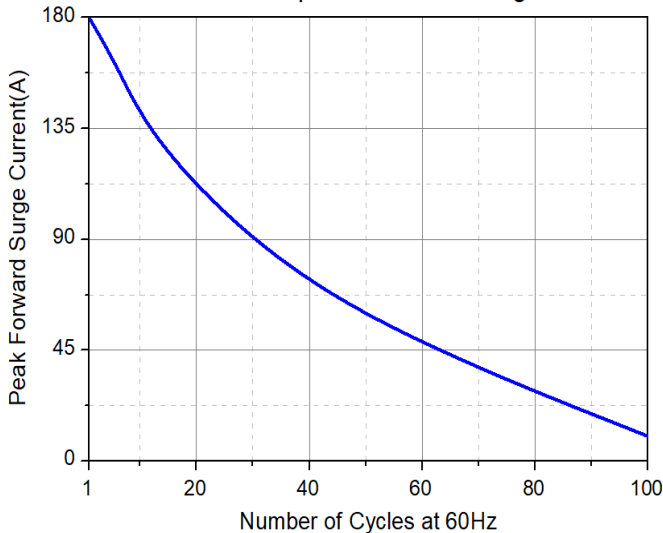
Typical Junction Capacitance



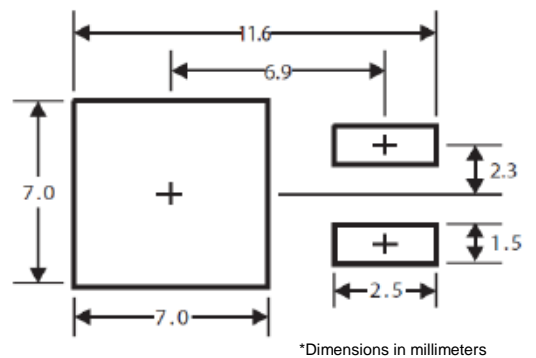
Typical Reverse Characteristic



Maximum Non-Repetitive Forward Surge Current



Mounting Pad Layout



*Dimensions in millimeters