

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

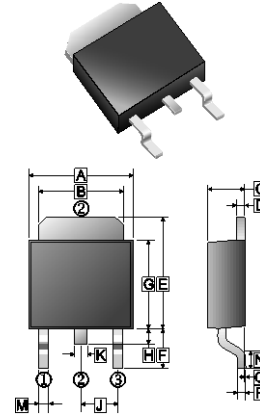
FEATURES

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

MECHANICAL DATA

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

TO-252 (D-Pack)



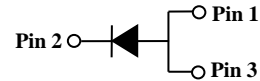
PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.90	J	2.30	REF.
B	4.95	5.50	K	0.64	1.14
C	2.10	2.50	M	0.50	1.14
D	0.43	0.9	N	1.3	1.8
E	6.0	7.5	O	0	0.13
F	2.80 REF.		P	0.58 REF.	
G	5.40	6.40			
H	0.60	1.20			

RDER INFORMATION

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



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 ²	$R_{\theta JC}$	10	°C / W
Typical Thermal Resistance ³	$R_{\theta JA}$	95.8	
Operating & Storage Temperature	T_J, T_{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS

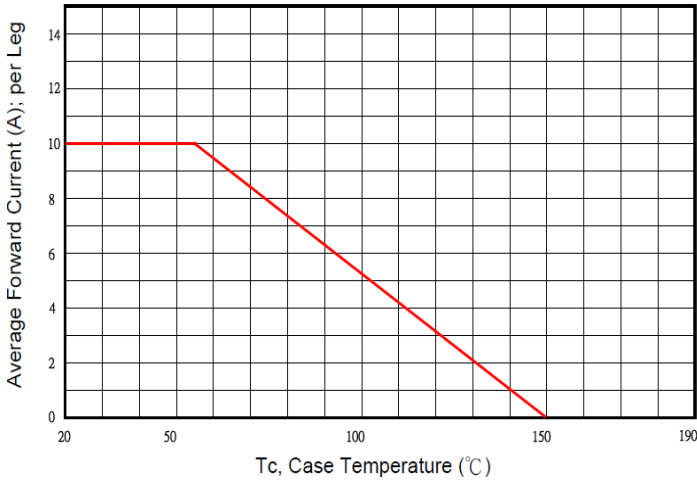
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	V_F	0.79	-	V	$I_F=5A, T_J=25^\circ C$
		0.86	0.92		$I_F=10A, T_J=25^\circ C$
		0.73	-		$I_F=10A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage ⁴	I_R	-	0.2	mA	$T_J=25^\circ C$
		-	20		$T_J=100^\circ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

Note:

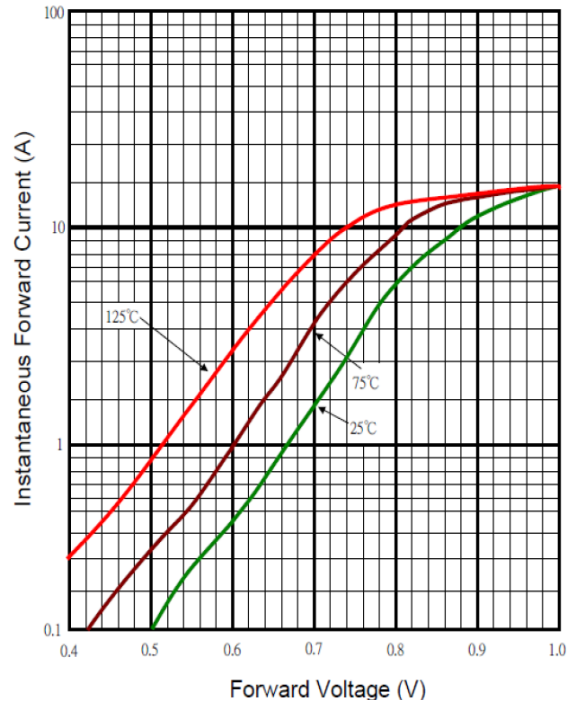
1. Measured at 1MHz and applied reverse voltage of 5.0V D.C.
2. Thermal Resistance Junction to Case. FR4 Board Heat sink size: 10*10*0.2mm.
3. Thermal Resistance Junction to Ambient.
4. Pulse Test : Pulse Width $\leq 300\mu s$ Duty Cycle $\leq 2\%$

RATINGS AND CHARACTERISTIC CURVES

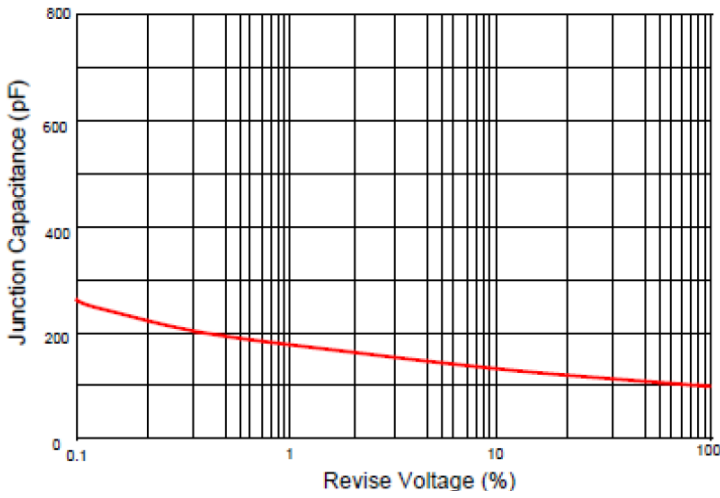
Typical Forward Current Derating Curve



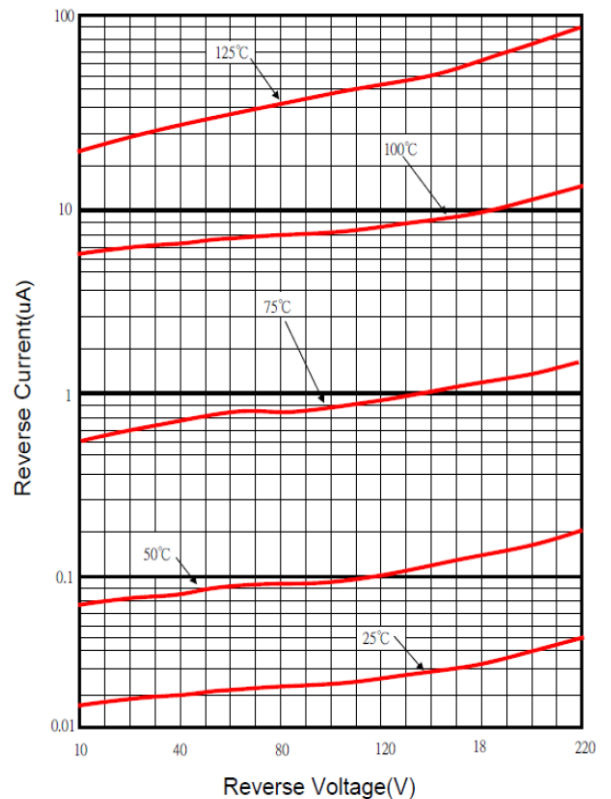
Typical Forward Characteristic



Typical Junction Capacitance



Typical Reverse Characteristic



Maximum Non- Repetitive Forward Surge Current

