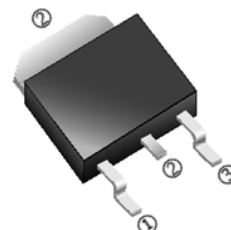


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

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

TO-252 (D-Pack)



MECHANICAL DATA

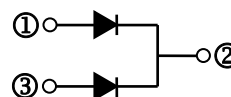
- Case: Molded Plastic
- Epoxy: UL94V-0 Rate Flame Retardant
- Lead: Lead Solderable per MIL-STD-202 Method 208
- Polarity: As Marked
- Mounting Position: Any

PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

ORDER INFORMATION

Part Number	Type
SM1020D1-C~SM10100D1-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	Part Number				Unit
		SM1020D1-C	SM1040D1-C	SM1060D1-C	SM10100D1-C	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	100	V
Working Peak Reverse Voltage	V_{RSM}	20	40	60	100	V
Maximum DC Blocking Voltage	V_{DC}	20	40	60	100	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}	125				A
Maximum Instantaneous Forward Voltage @5A	V_F	0.55		0.65	0.83	V
Maximum DC Reverse Current @Rated DC Blocking Voltage ³	$T_A=25^\circ\text{C}$	0.3		0.15	0.05	mA
	$T_A=100^\circ\text{C}$	45		22.5	7.5	
Typical Junction Capacitance ¹	C_J	250				pF
Typical Thermal Resistance ²	$R_{\theta JC}$	10				°C/W
Operating & Storage Temperature Range	T_J, T_{STG}	-55~150				°C

Notes:

1. Measured at 1MHz and applied reverse voltage of 4V D.C.
2. Thermal Resistance Junction to Case. FR-4 Board Heat sink size: 10*10*0.2mm.
3. Pulse test: 300us pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES

Typical Forward Current Derating Curve

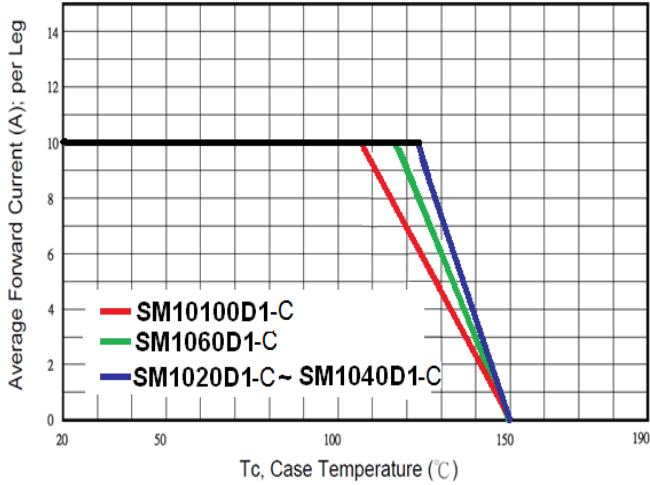


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

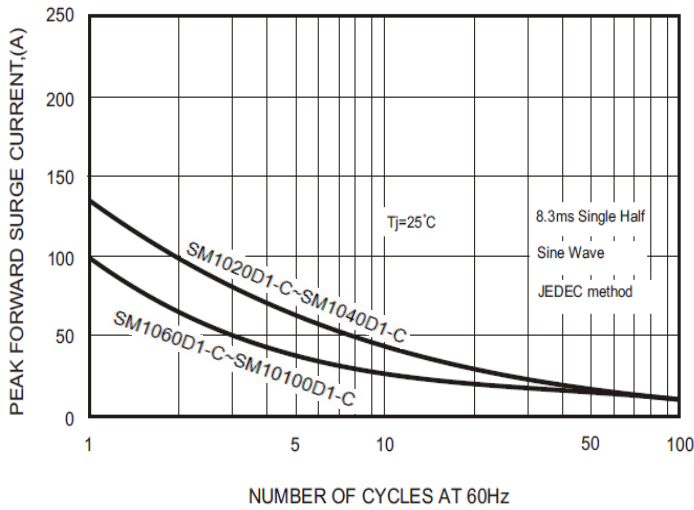


FIG.4-TYPICAL JUNCTION CAPACITANCE

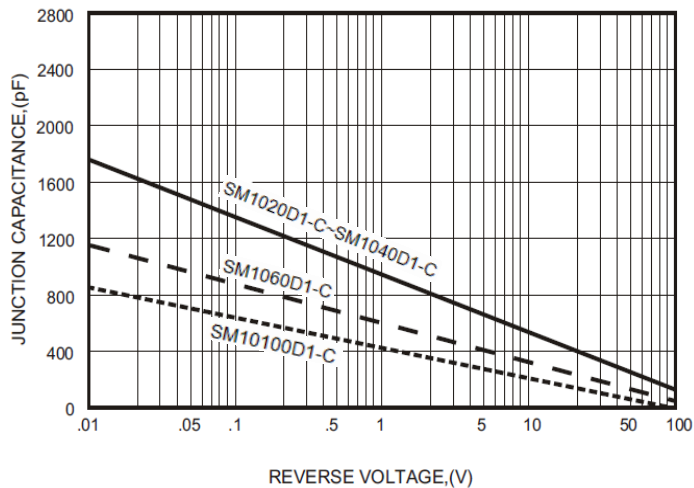


FIG.2-TYPICAL FORWARD CHARACTERISTICS

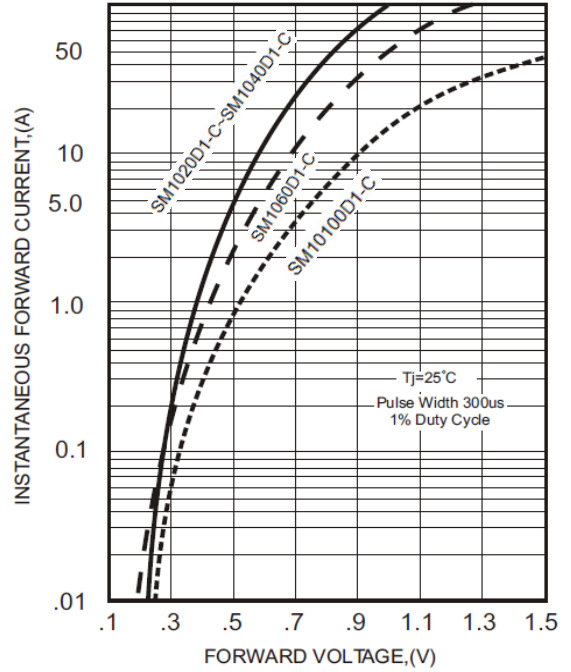
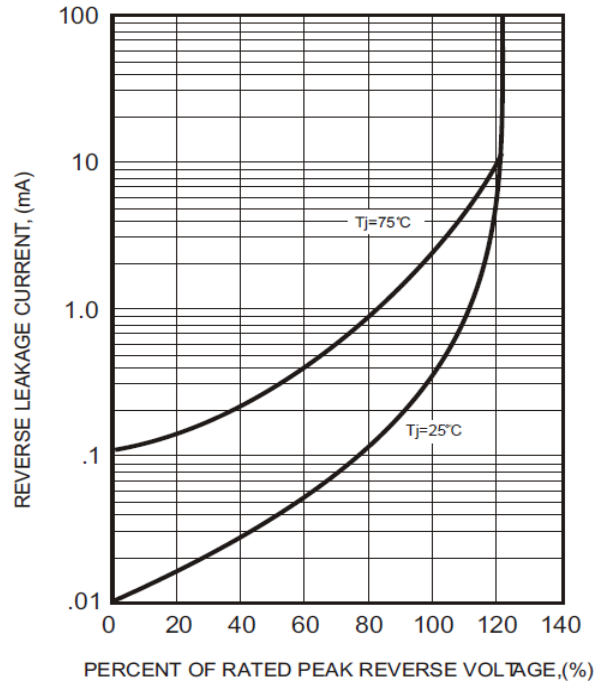
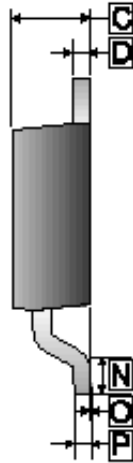
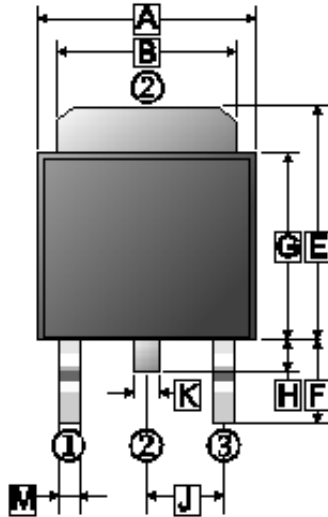


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



PACKAGE OUTLINE DIMENSIONS

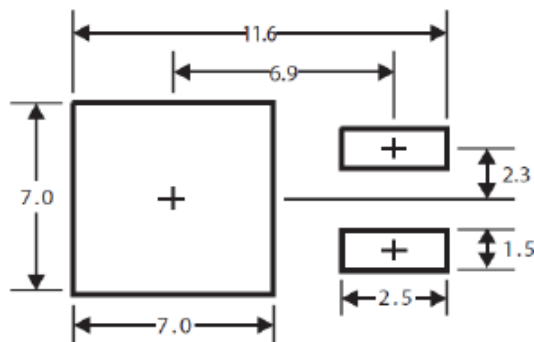
TO-252



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

MOUNTING PAD LAYOUT

TO-252



*Dimensions in millimeters