

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

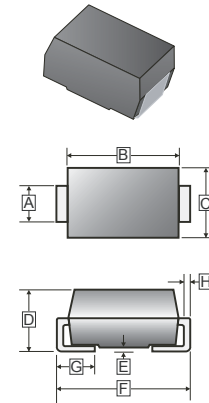
FEATURES

- RoHS Compliant Product
- 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
- Metallurgically bonded construction
- Polarity : Color Band Denotes Cathode End
- Mounting Position: Any

SMC



PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.75	3.15	E	-	0.203
B	6.60	7.11	F	7.75	8.13
C	5.59	6.22	G	0.76	1.27
D	2.00	2.62	H	0.15	0.31

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
		SM1020C	SM1040C	SM1060C	SM10100C	
Peak 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 Current, See Fig. 1	I_F	10				A
Peak Forward Surge Current @ 8.3 ms Half Sine-Wave superimposed on rated load (JEDEC method)	I_{FSM}	180				
Maximum Instantaneous Forward Voltage@ $I_F=10A$	V_F	0.56	0.72	0.83		V
Maximum DC Reverse Current At Rated DC Blocking Voltage ³	$T_J=25^\circ C$	0.3	0.2	0.1		mA
	$T_J=100^\circ C$	22	15	10		
Typical Junction Capacitance ¹	C_J	380				pF
Voltage Rate of Change (Rated VR)	dv/dt	10000				V / μS
Typical Thermal Resistance ²	$R_{\theta JC}$	25				°C / W
Typical Thermal Resistance ⁴	$R_{\theta JL}$	20				°C / W
Operating and Storage Temperature Range	T_J, T_{STG}	-50 ~ 150				°C

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 V D.C.
2. Thermal Resistance Junction to Case
3. Pulse Test : Pulse Width = 300 μs , Duty Cycle \leq 2.0%.
4. Thermal Resistance Junction to Lead.

CHARACTERISTIC CURVES

Typical Forward Current Derating Curve

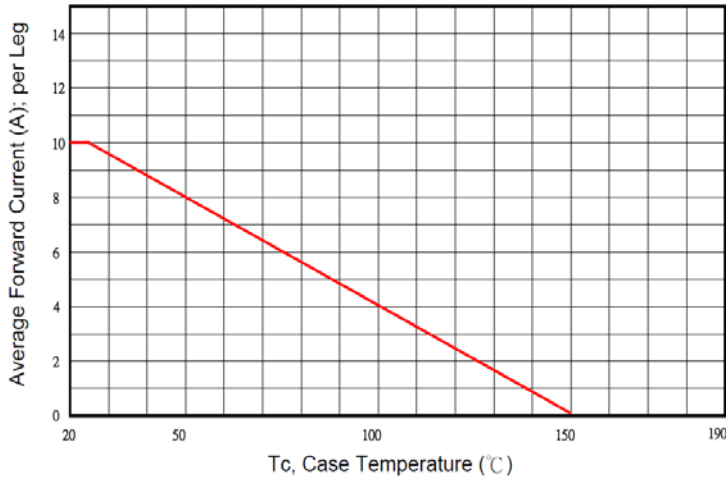


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

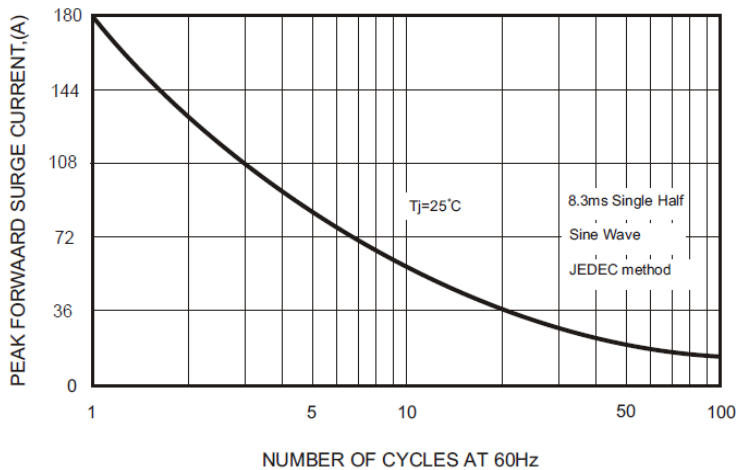


FIG.4-TYPICAL JUNCTION CAPACITANCE

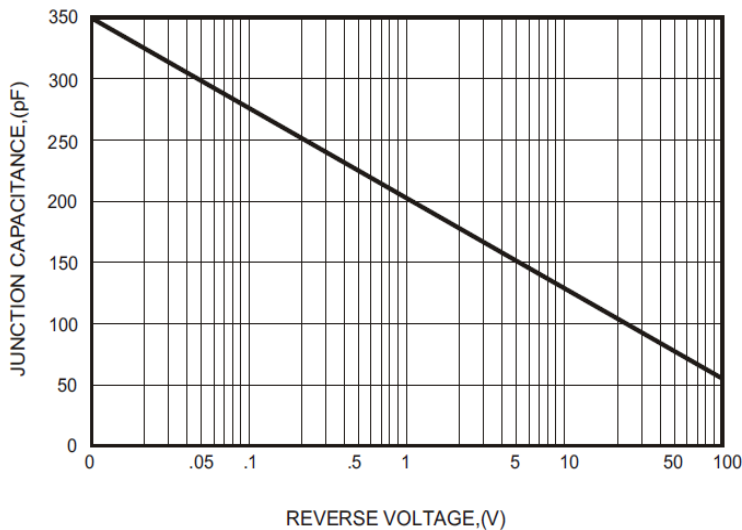


FIG.2-TYPICAL FORWARD CHARACTERISTICS

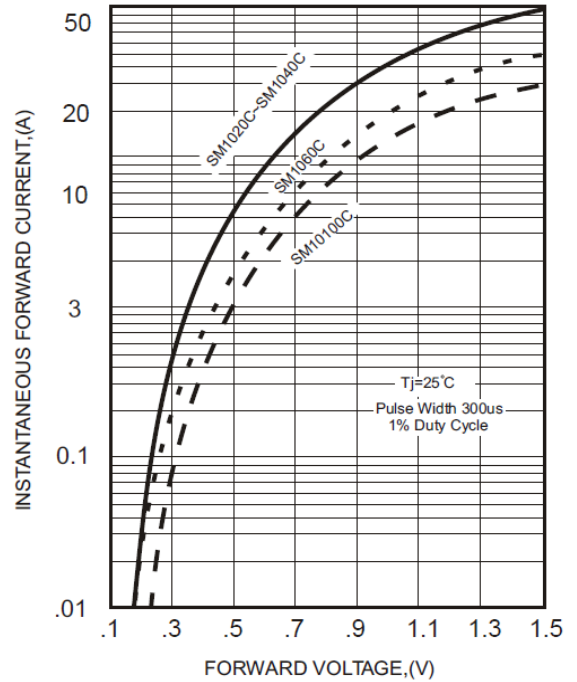


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

