

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

## FEATURES

- Schottky Barrier Chip
- High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Forward Surge Capability
- Ultra Low Power Loss and High Efficiency
- Excellent High Temperature Stability
- Plastic Material-UL Flammability 94V-0

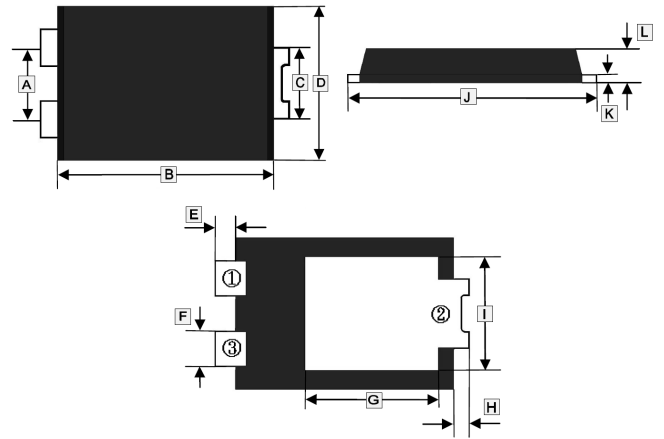
## PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-277D	5K	13 inch

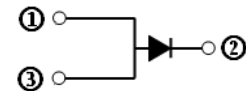
## ORDER INFORMATION

Part Number	Type
SMPD1045L	Lead (Pb)-free
SMPD1045L-C	Lead (Pb)-free and Halogen-free

## TO-277D



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.65	1.95	G	3.25	3.85
B	5.3	5.5	H	0.45	0.65
C	1.7	1.9	I	2.9	3.2
D	3.8	4.2	J	6.4	6.6
E	0.45	0.65	K	0.3	0.45
F	0.8	1.0	L	1.0	1.2



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

( $T_A=25^\circ\text{C}$ , 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 Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Maximum Working Peak Reverse Voltage	$V_{RWM}$	45	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Rectified Output Current	$I_o$	10	A
Non-Repetitive Peak Forward Surge Current@ 8.3ms Single Half Sine-Wave, Superimposed on Rated Load (JEDEC method) <sup>2</sup>	$I_{FSM}$	250	A
$I^2t$ Rating for Fusing@ $t < 8.3\text{ms}$	$I^2t$	259.375	$\text{A}^2\text{S}$
Typical Thermal Resistance from Junction to Case <sup>1</sup>	$R_{\theta JC}$	7	$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS

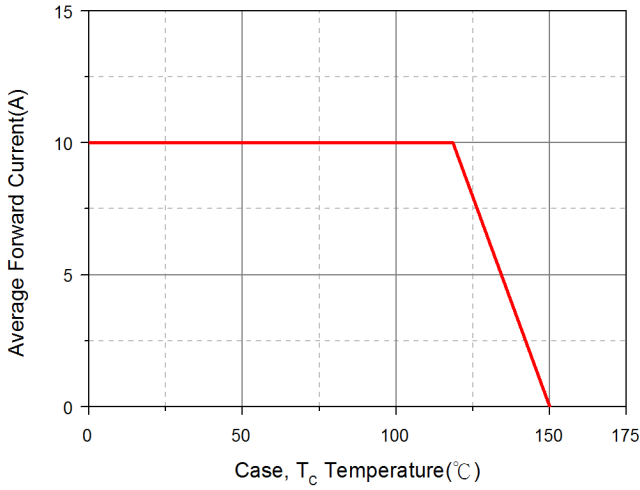
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	$V_F$	-	0.45	V	$I_F=10\text{A}, T_A=25^\circ\text{C}$
		0.38	-		$I_F=10\text{A}, T_A=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>2</sup>	$I_R$	-	0.3	mA	$T_A=25^\circ\text{C}$
		-	15		$T_A=100^\circ\text{C}$

Notes:

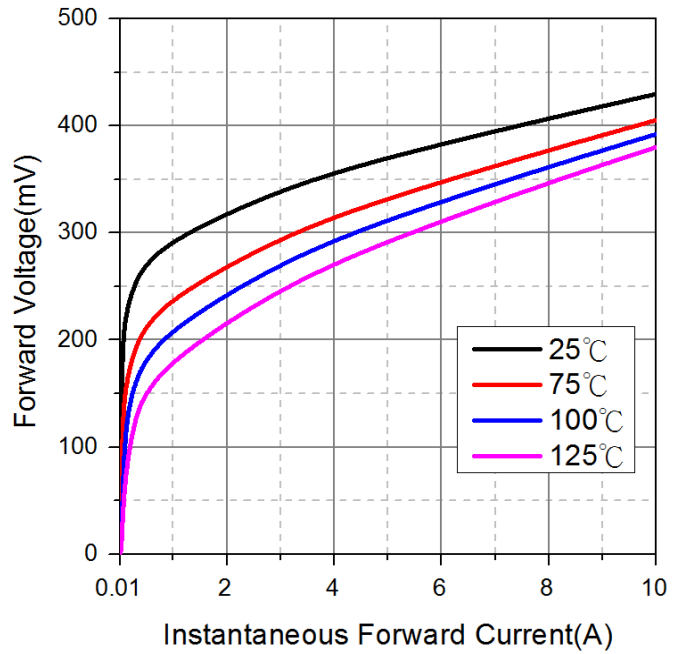
1. FR4 Board Heat sink size:  $10 \times 10 \times 0.2\text{mm}$ .
2. Pulse Test : Pulse Width=300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

**CHARACTERISTIC CURVES**

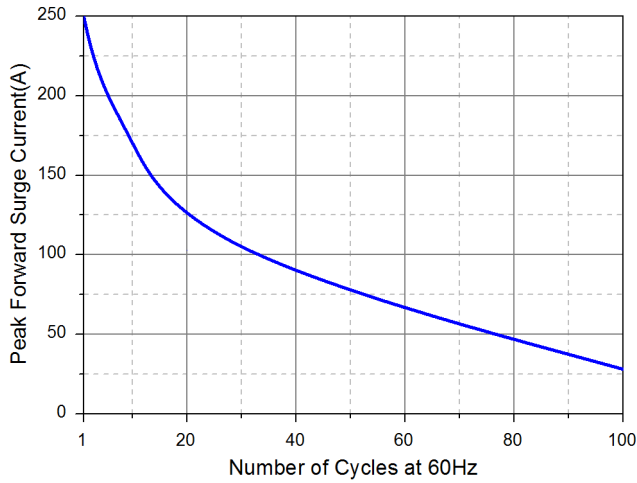
Typical Forward Current Derating Curve



Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic

