

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

## FEATURES

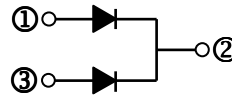
- Planar MOS Schottky technology
- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Epitaxial construction

## MECHANICAL DATA

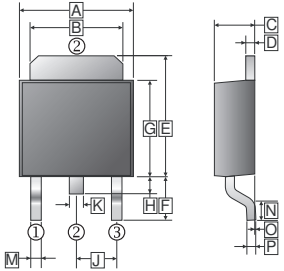
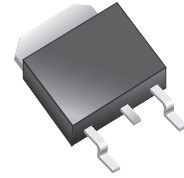
- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Mounting position: Any

## ORDER INFORMATION

Part Number	Type
SBL10U45D1	Lead (Pb)-free
SBL10U45D1-C	Lead (Pb)-free and Halogen-free



## TO-252



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.3	6.9	J	2.3 REF.	
B	4.95	5.53	K	0.89 REF.	
C	2.1	2.5	M	0.45	1.14
D	0.4	0.9	N	1.55 Typ.	
E	6	7.7	O	0	0.15
F	2.90 REF.		P	0.58 REF.	
G	5.4	6.4			
H	0.6	1.2			

## 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 Recurrent Peak Reverse Voltage	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RSM}$	45	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current	$I_F$	5	A
(Per Leg)		10	
Peak Forward Surge Current, 8.3 ms single half sine-wave Superimposed on rated load (JEDEC method)	$I_{FSM}$	120	A
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	10000	V / $\mu$ s
Typical Thermal Resistance <sup>1</sup>	$R_{\theta JC}$	6	°C / W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-40~150	°C

## ELECTRICAL CHARACTERISTICS

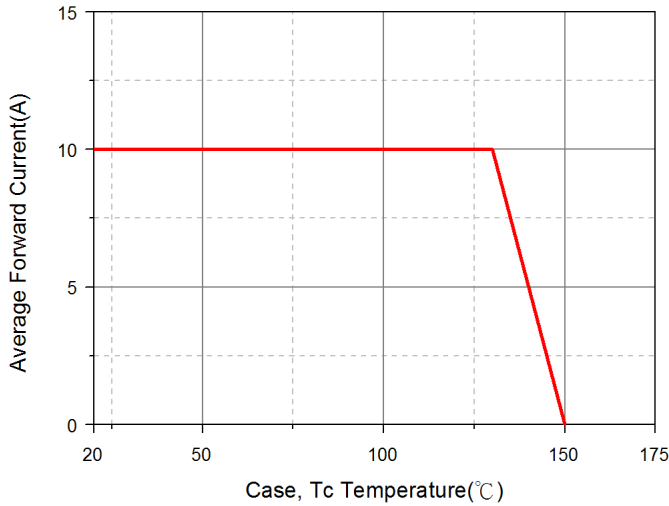
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	$V_F$	0.38	-	V	$I_F=3A, T_J=25^\circ C$
		0.42	0.48		$I_F=5A, T_J=25^\circ C$
		0.31	-		$I_F=3A, T_J=125^\circ C$
		0.38	-		$I_F=5A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>3</sup>	$I_R$	-	0.5	mA	$T_J=25^\circ C$
		-	20		$T_J=100^\circ C$
Typical Junction Capacitance <sup>2</sup>	$C_J$	320	-	pF	

Notes:

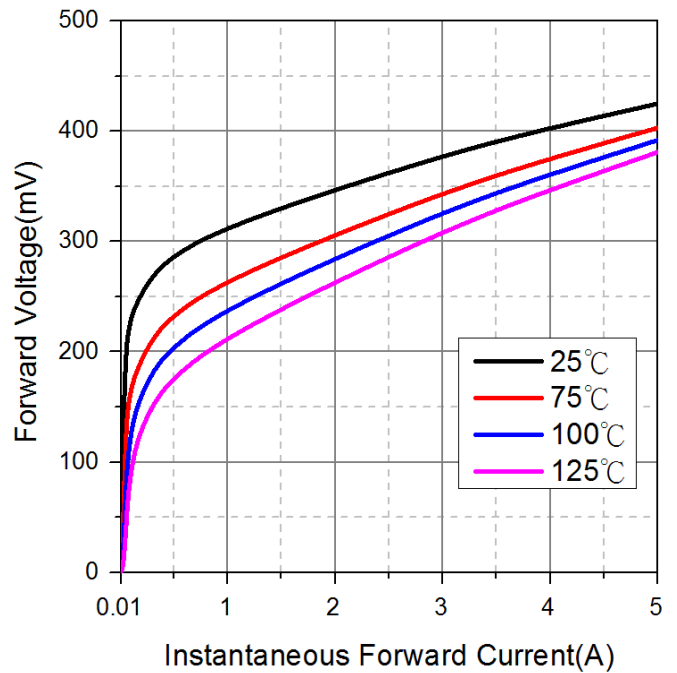
1. Surface mounted on 2.5cm x 2.5cm x 0.5mm copper pad area.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Pulse Test : Pulse Width = 300  $\mu$ s, Duty Cycle  $\leq$  2.0%.

**RATING AND CHARACTERISTIC CURVES**

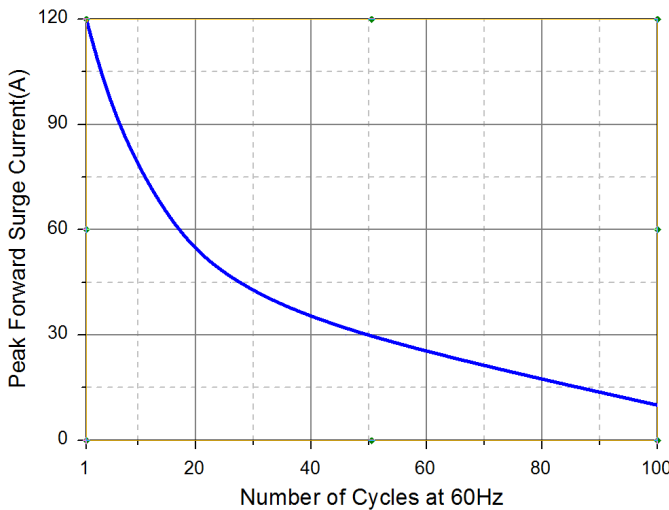
Typical Forward Current Derating Curve



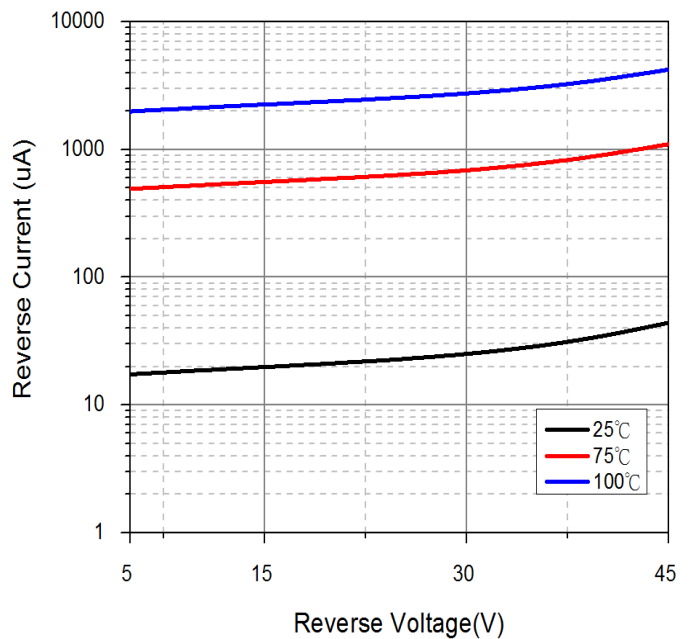
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

