

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

## FEATURES

- Planar MOS Schottky technology
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Fast Switching Capability
- High Reliability
- High Surge Current Capability
- Epitaxial Construction

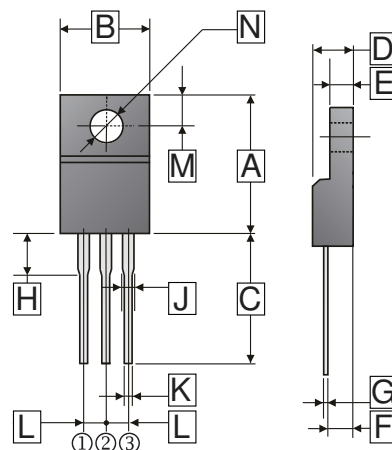
## MECHANICAL DATA

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

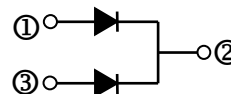
## ORDER INFORMATION

Part Number	Type
SBL40U45F	Lead (Pb)-free
SBL40U45F-C	Lead (Pb)-free and Halogen-free

### ITO-220



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	14.40	16.50	H	3.10	4.50
B	9.50	10.72	J	0.80	1.80
C	12.58	14.22	K	0.30	0.95
D	3.90	5.10	L	1.80	2.95
E	2.10	3.56	M	2.15	3.60
F	2.10	3.20	N	φ2.60	φ3.80
G	0.30	0.80			



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RSM}$	45	
Maximum DC Blocking Voltage	$V_{DC}$	45	
Maximum Average Forward Rectified Current	(Per Leg)	20	A
	(Per Device)	40	
Peak Forward Surge Current, 8.3ms single half sine-wave Superimposed on rated load (JEDEC method)	$I_{FSM}$	275	A
Typical Thermal Resistance	$R_{\theta JC}$	4	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55~150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS

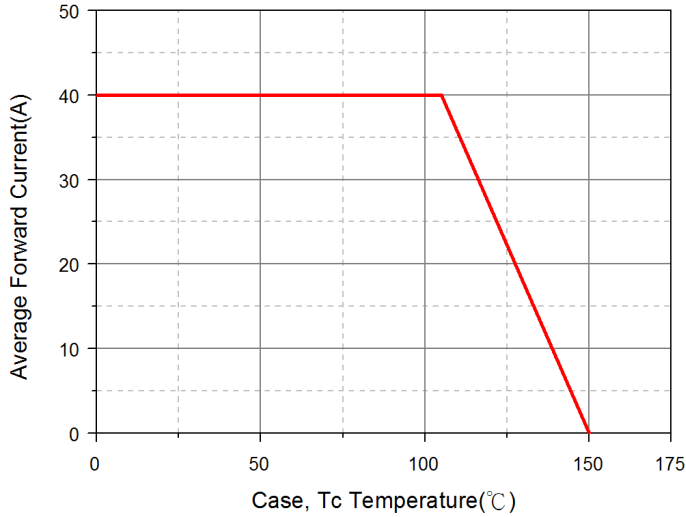
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Instantaneous Forward Voltage	$V_F$	0.28	-	V	$I_F=1\text{A}, T_A=25^\circ\text{C}$
		0.41	-		$I_F=10\text{A}, T_A=25^\circ\text{C}$
		0.5	0.55		$I_F=20\text{A}, T_A=25^\circ\text{C}$
		0.47	-		$I_F=20\text{A}, T_A=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>1</sup>	$I_R$	-	0.3	mA	$V_R=45\text{V}, T_J=25^\circ\text{C}$
		-	15		$V_R=45\text{V}, T_J=100^\circ\text{C}$
Junction Capacitance <sup>2</sup>	$C_J$	820	-	pF	

Notes:

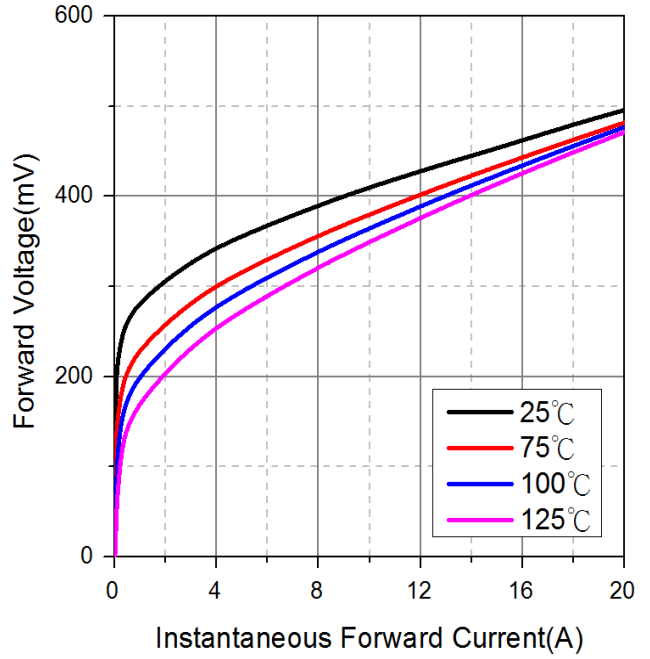
1. Pulse Test: Pulse Width=300us, Duty Cycle $\leq$ 2%.
2. Measured at 1MHz and applied reverse voltage of 4V D.C.

**RATINGS AND CHARACTERISTIC CURVES**

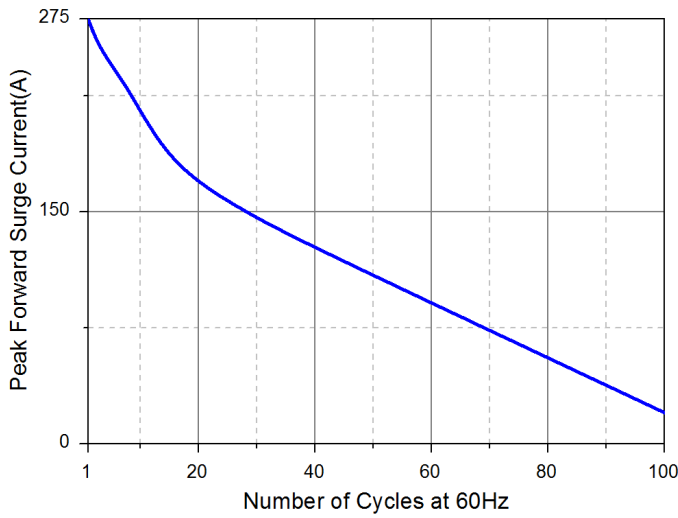
Typical Forward Current Derating Curve



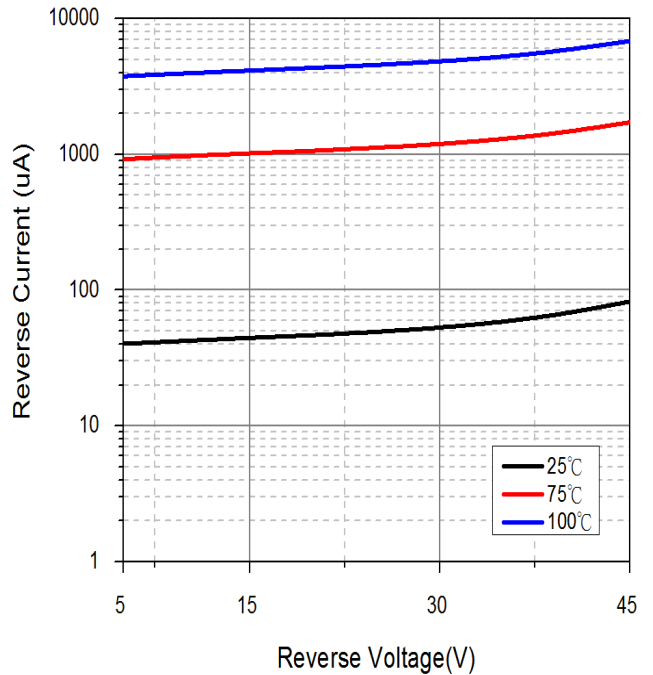
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

