

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

FEATURES

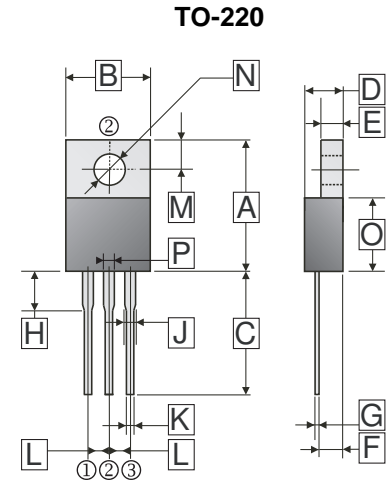
- Planar MOS Schottky technology
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Fast Switching Capability
- High Reliability
- High Surge Current Capability
- Epitaxial Construction

MECHANICAL DATA

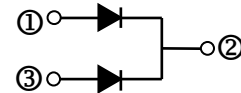
- Case: TO-220
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Epoxy: UL94V-0 Rate Flame Retardant
- Terminals: Matte Tin Finish annealed over Copper Leadframe Solderable per MIL-STD-202, Method 208
- Polarity: As Marked
- Mounting position: Any

ORDER INFORMATION

Part Number	Type
SBL40U45	Lead (Pb)-free
SBL40U45-C	Lead (Pb)-free and Halogen-free



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	14.22	16.51	J	0.70	1.78
B	9.57	10.90	K	0.38	1.11
C	12.50	14.75	L	2.01	3.07
D	3.56	5.10	M	2.22	3.43
E	0.51	1.47	N	3.10	4.31
F	2.03	3.19	O	8.10	9.65
G	0.279	0.76	P	1.18 TYP.	
H	2.95	4.5			



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	$R_{\theta JC}$	2	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

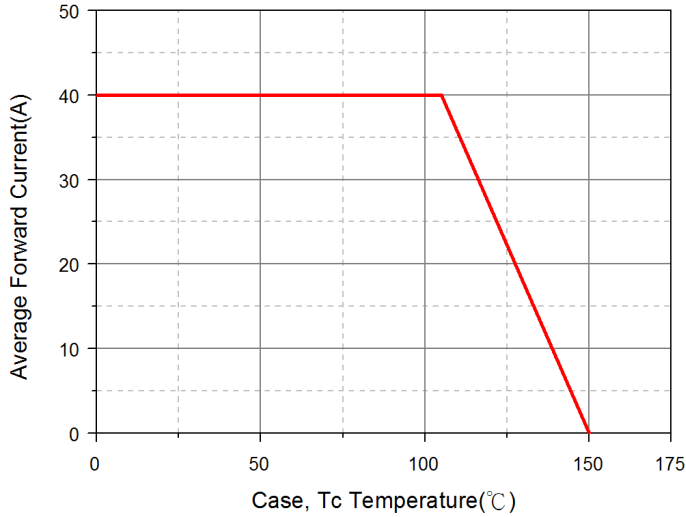
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Instantaneous Forward Voltage	V_F	0.28	-	V	$I_F=1\text{A}, T_A=25^\circ\text{C}$
		0.41	-		$I_F=10\text{A}, T_A=25^\circ\text{C}$
		0.5	0.55		$I_F=20\text{A}, T_A=25^\circ\text{C}$
		0.47	-		$I_F=20\text{A}, T_A=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage ¹	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 ²	C_J	820	-	pF	

Notes:

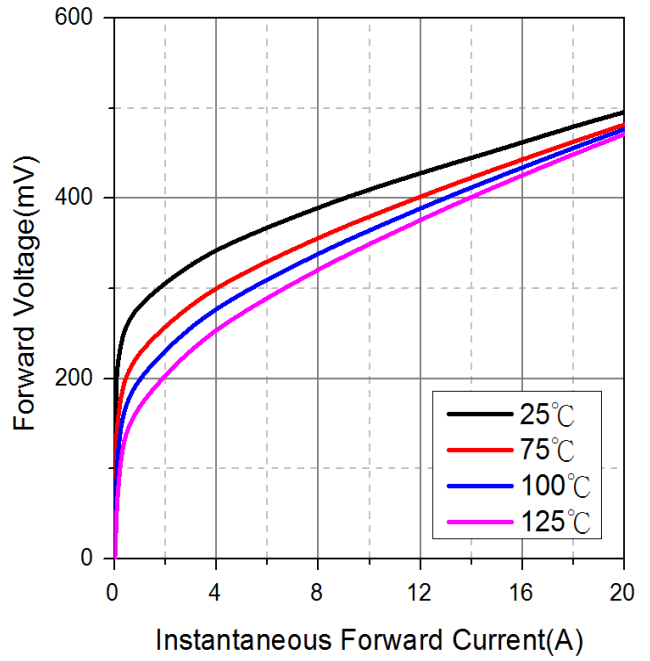
1. Pulse Test: Pulse Width=300us, Duty Cycle \leq 2%.
2. Measured at 1MHz and applied reverse voltage of 4V D.C.

RATINGS AND CHARACTERISTIC CURVES

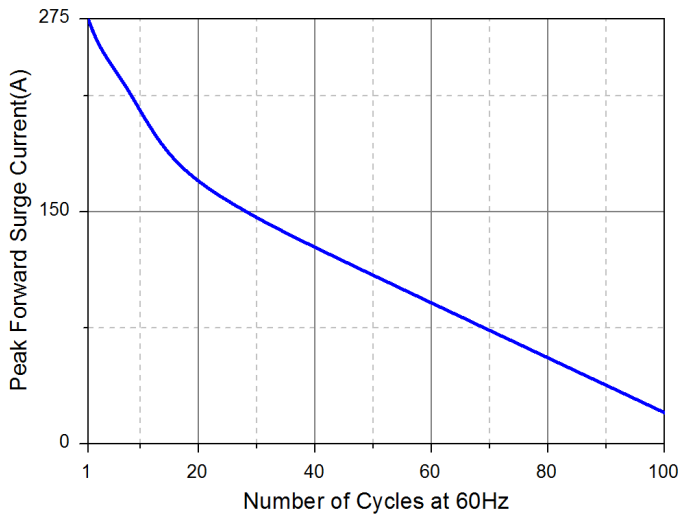
Typical Forward Current Derating Curve



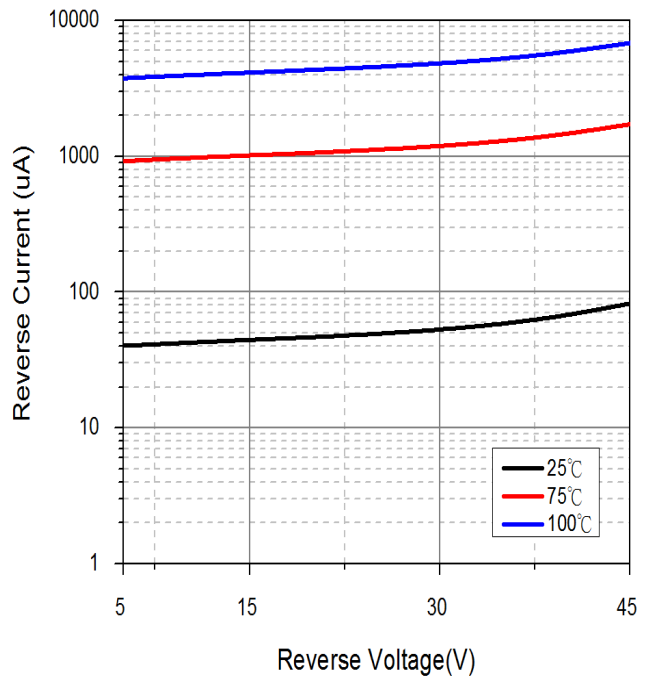
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

