

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

FEATURES

- Planar MOS Rectifier technology
- Ultra-Low Forward Voltage
- 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
- Polarity: As Marked

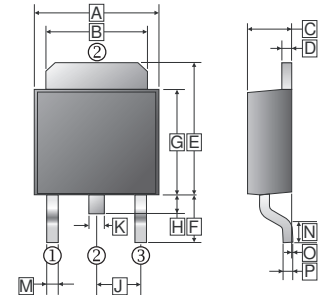
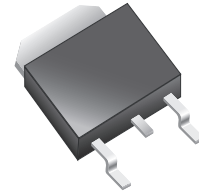
PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

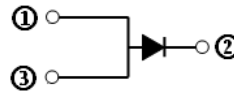
ORDER INFORMATION

Part Number	Type
SBX10U60DS1-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}	60	V
Working Peak Reverse Voltage	V_{RSM}	60	V
Maximum DC Blocking Voltage	V_{DC}	60	V
Maximum Average Forward Rectified Current	I_F	10	A
Peak Forward Surge Current@ 8.3 ms single half sine-wave Superimposed on rated load (JEDEC method)	I_{FSM}	200	A
Typical Thermal Resistance from Junction to Case ¹	$R_{\theta JC}$	4.8	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-40~150	°C

ELECTRICAL CHARACTERISTICS

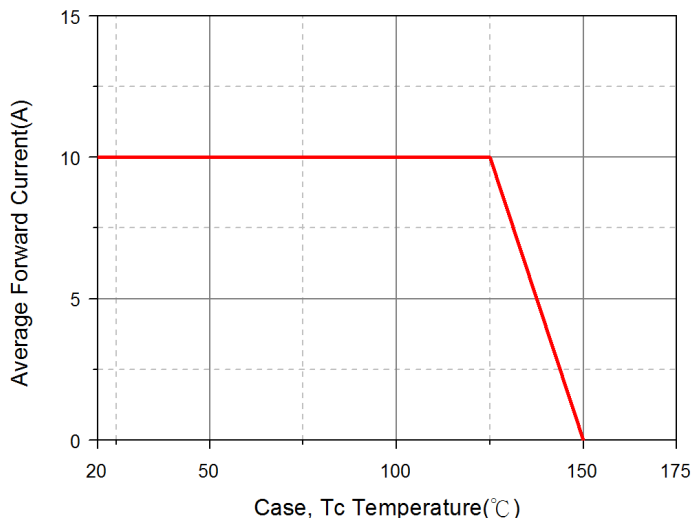
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	V_F	0.35	0.39	V	$I_F=3A, T_J=25^\circ C$
		0.38	0.42		$I_F=5A, T_J=25^\circ C$
		0.44	0.52		$I_F=10A, T_J=25^\circ C$
		0.41	-		$I_F=10A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage ²	I_R	-	0.5	mA	$T_J=25^\circ C$
		-	30		$T_J=100^\circ C$
Typical Junction Capacitance ³	C_J	600	-	pF	

Notes:

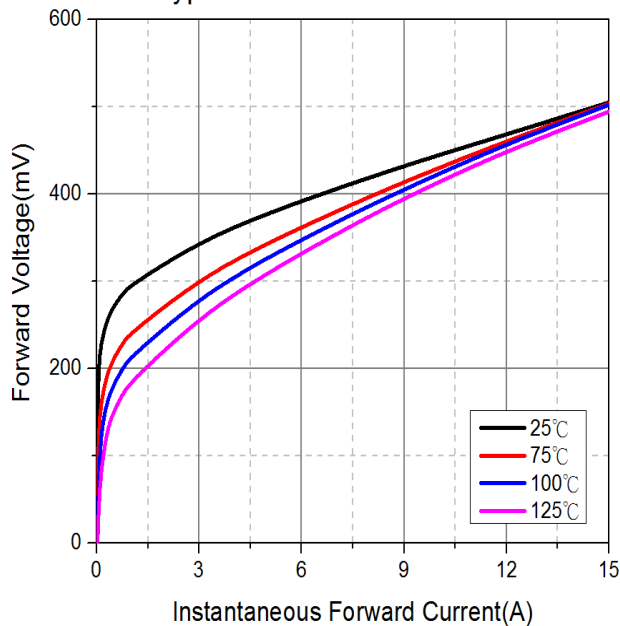
1. Surface mounted on 2.5cm x 2.5cm x 0.5mm copper pad area.
2. Pulse Test : Pulse width=300µs, duty cycle ≤ 2.0%.
3. Measured at 1MHz and applied reverse voltage of 5.0V D.C.

RATINGS AND CHARACTERISTIC CURVES

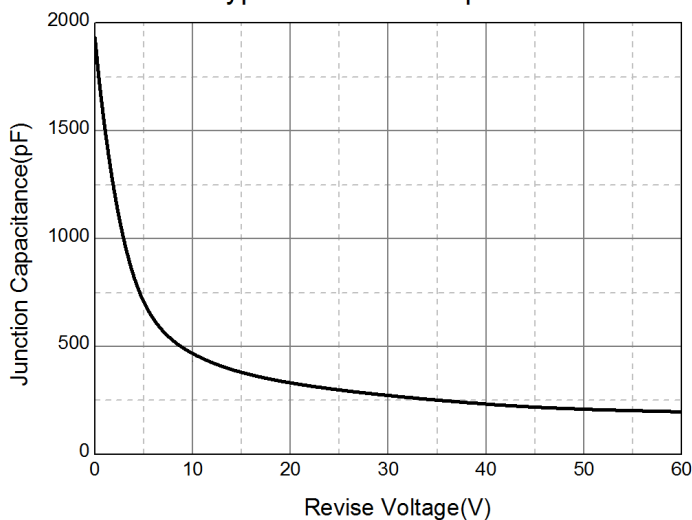
Typical Forward Current Derating Curve



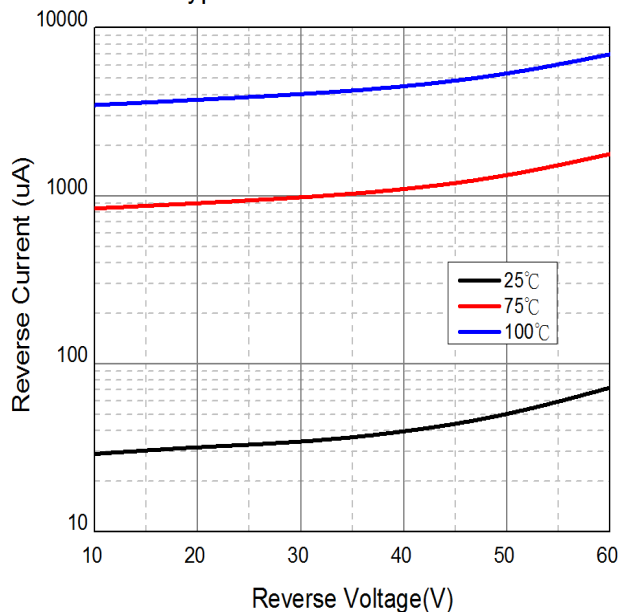
Typical Forward Characteristic



Typical Junction Capacitance



Typical Reverse Characteristic



Maximum Non-Repetitive Forward Surge Current

