

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

## FEATURES

- Planar MOS Schottky Technology
- Ultra-Low Forward Voltage
- High Current Capability
- High Reliability
- High Surge Current Capability
- Epitaxial Construction

## MECHANICAL DATA

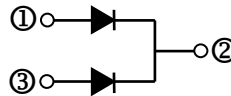
- Case: TO-263(D<sup>2</sup>-Pack) Molded Plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Mounting position: Any

## PACKAGE INFORMATION

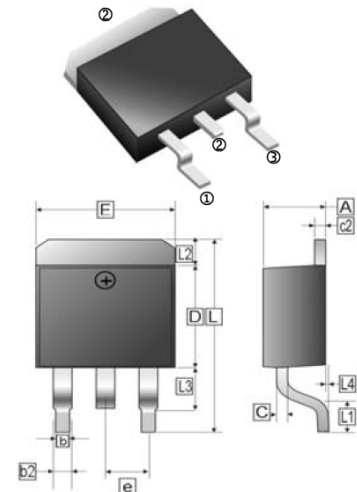
Package	MPQ	Leader Size
TO-263	0.8K	13 inch

## ORDER INFORMATION

Part Number	Type
SBX20U45D	Lead (Pb)-free
SBX20U45D-C	Lead (Pb)-free and Halogen-free



## TO-263



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.00	4.87	c2	1.07	1.65
b	0.51	1.01	b2	1.34	REF
L4	0.00	0.30	D	8.0	9.65
C	0.30	0.74	e	2.54	REF
L3	1.50	REF	L	14.6	16.1
L1	2.50	REF	L2	1.27	REF
E	9.60	10.67			

## 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	$I_F$	10	A
(Per Leg)		20	
Peak Forward Surge Current, 8.3 ms single half sine-wave Superimposed on rated load (JEDEC method)	$I_{FSM}$	280	A
Typical Thermal Resistance	$R_{\theta JC}$	2	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-40~150	°C

## ELECTRICAL CHARACTERISTICS

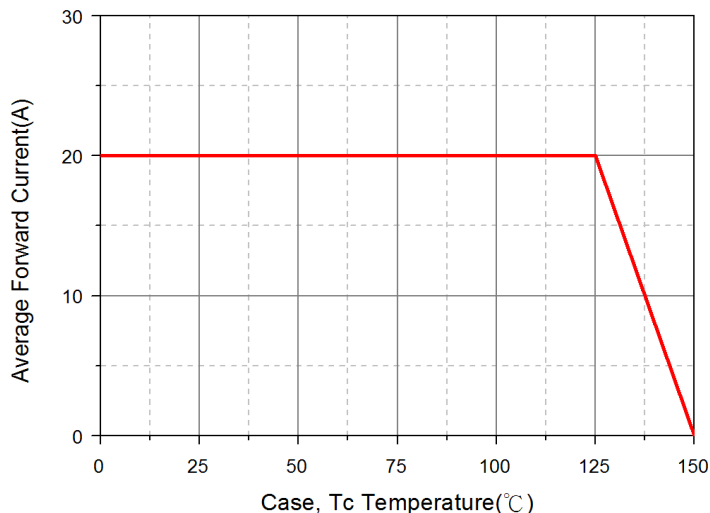
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	$V_F$	0.28	-	V	$I_F=1A, T_J=25^\circ C$
		0.36	-		$I_F=5A, T_J=25^\circ C$
		0.42	0.46		$I_F=10A, T_J=25^\circ C$
		0.17	-		$I_F=1A, T_J=125^\circ C$
		0.28	-		$I_F=5A, T_J=125^\circ C$
		0.37	-		$I_F=10A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>2</sup>	$I_R$	0.08	0.3	mA	$T_J=25^\circ C$
		-	15		$T_J=100^\circ C$
Typical Junction Capacitance <sup>1</sup>	$C_J$	650	-	pF	

Notes:

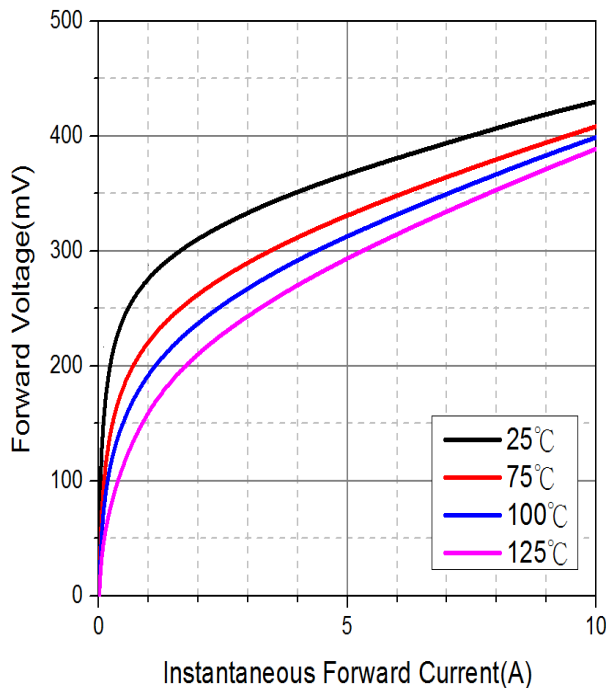
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300µs, Duty Cycle ≤2%.

**RATINGS AND CHARACTERISTIC CURVES**

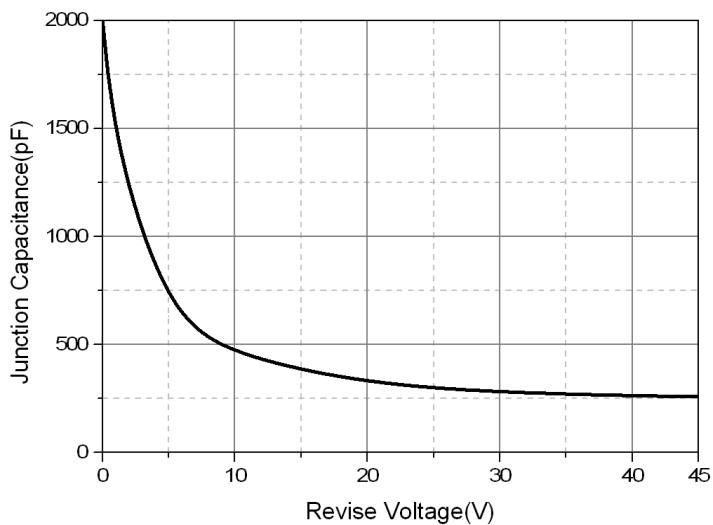
Typical Forward Current Derating Curve



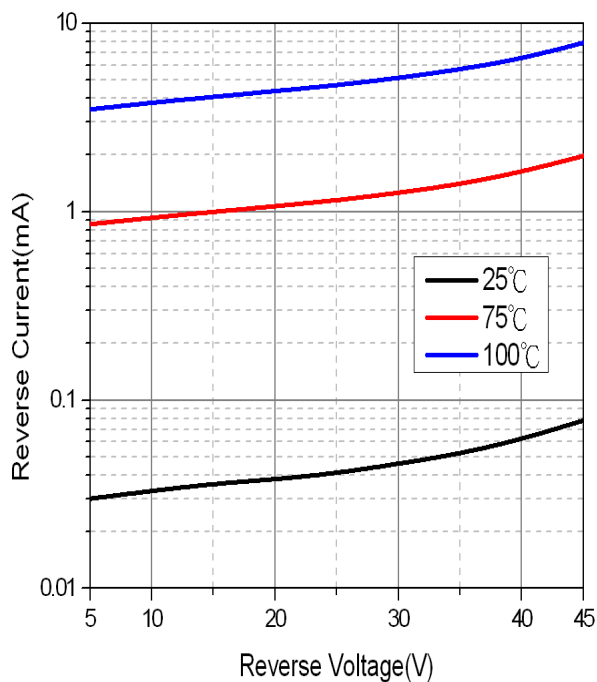
Typical Forward Characteristic



Typical Junction Capacitance(pF)



Typical Reverse Characteristic



Maximum Non-Repetitive Forward Surge Current

