

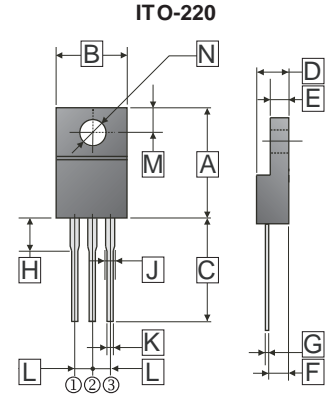
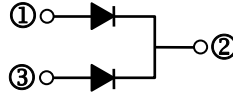
RoHS Compliant Product  
A suffix of "-C" specifies halogen free

## FEATURES

- 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
- Polarity: As Marked
- Mounting position: Any
- Weight: 1.98 g (Approximate)



Dimensions in millimeters

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	15.00	15.60	H	3.00	3.80
B	9.50	10.50	J	0.90	1.50
C	13.00 Min		K	0.50	0.90
D	4.30	4.70	L	2.34	2.74
E	2.50	3.10	M	2.50	2.90
F	2.40	2.80	N	φ3.1	φ3.4
G	0.30	0.70			

## 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%.

TYPE NUMBER	SYMBOL	SBR2045F	UNITS
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 (Per Leg)	$I_F$	10	A
(Per Device)		20	
Peak Forward Surge Current, 8.3 ms single half sine-wave Superimposed on rated load (JEDEC method)	$I_{FSM}$	180	A
Maximum Instantaneous Forward Voltage ( $I_F = 10.0\text{ A}$ , $T_A = 25^\circ\text{C}$ , per leg)	$V_F$	0.58	V
( $I_F = 10.0\text{ A}$ , $T_A = 125^\circ\text{C}$ , per leg)		0.53	
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 3)	$I_R$	0.30	mA
( $T_A = 25^\circ\text{C}$ )		15	
( $T_A = 100^\circ\text{C}$ )			
Typical Junction Capacitance (Note 1)	$C_J$	450	pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	4.0	°C/W
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	10000	V / $\mu\text{s}$
Operating Temperature Range	$T_J$	-50 ~ +150	°C
Storage Temperature Range	$T_{STG}$	-65 ~ +150	°C

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 5.0V D.C.
2. Thermal Resistance Junction to Case.
3. Pulse Test : Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq$  2.0%.

**RATINGS AND CHARACTERISTIC CURVES (SBR2045F)**

