

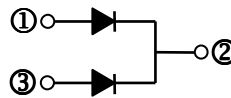
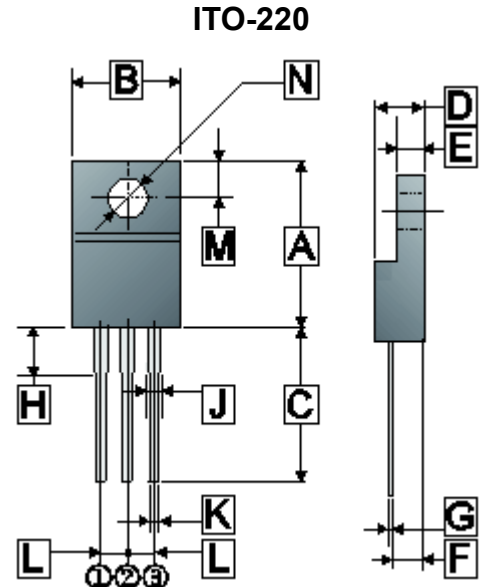
RoHS Compliant Product  
A suffix of "-C" specifies halogen free

### FEATURES

- Fast switching for high efficiency
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 30 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-0

### ORDER INFORMATION

Part Number	Type
SF20TD40F	Lead (Pb)-free
SF20TD40F-C	Lead (Pb)-free and Halogen-free



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	14.50	16.50	H	2.70	4.35
B	9.50	10.72	J	0.90	1.70
C	12.60	14.22	K	0.30	0.95
D	4.20	5.10	L	2.34	2.75
E	2.30	3.30	M	2.40	3.60
F	2.30	3.10	N	φ 3.0	φ 3.8
G	0.30	0.75			

### 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%.)

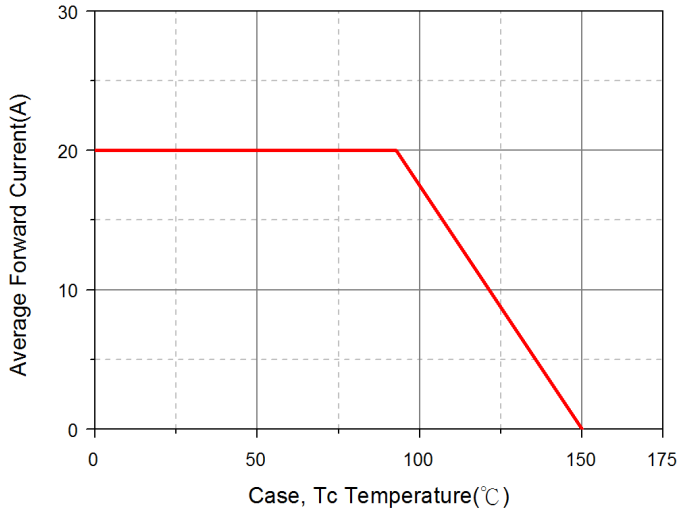
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	V
Working Peak Reverse Voltage	$V_{RWM}$	400	V
DC Blocking Voltage	$V_R$	400	V
Average Rectifier Forward Current	$I_{F(AV)}$	20	A
Non-Repetitive Peak Surge Current @ Surge applied at rate load conditions half-wave, single phase, 60Hz	$I_{FSM}$	90	A
Max. Instantaneous Forward Voltage @ $I_F=10A$	$V_F$	1.3	V
Max. Instantaneous Reverse Current <sup>2</sup>	$I_R$	$T_J=25^\circ C$	5
		$T_J=100^\circ C$	20
Reverse Recovery Time <sup>3</sup>	$T_{RR}$	30	nS
Typical Junction Capacitance <sup>1</sup>	$C_J$	45	pF
Thermal Resistance	$R_{\theta JC}$	4	°C / W
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	°C

Notes:

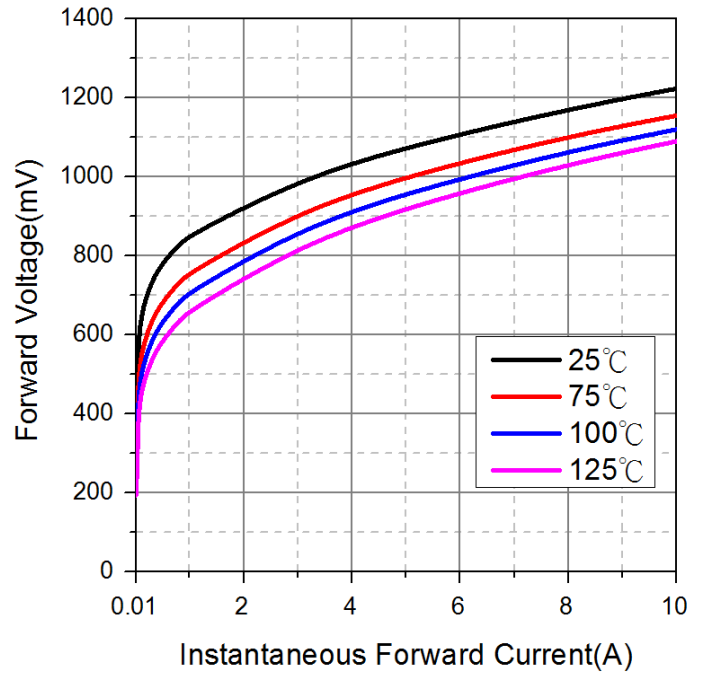
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300μs, Duty Cycle ≤ 2%.
3.  $I_F=0.5A, I_R=1A, I_{RR}=0.25A$ .

**RATINGS AND CHARACTERISTIC CURVES**

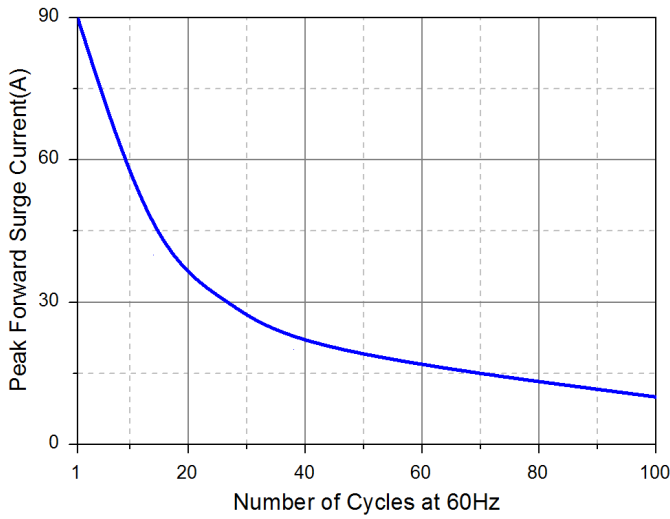
Typical Forward Current Derating Curve



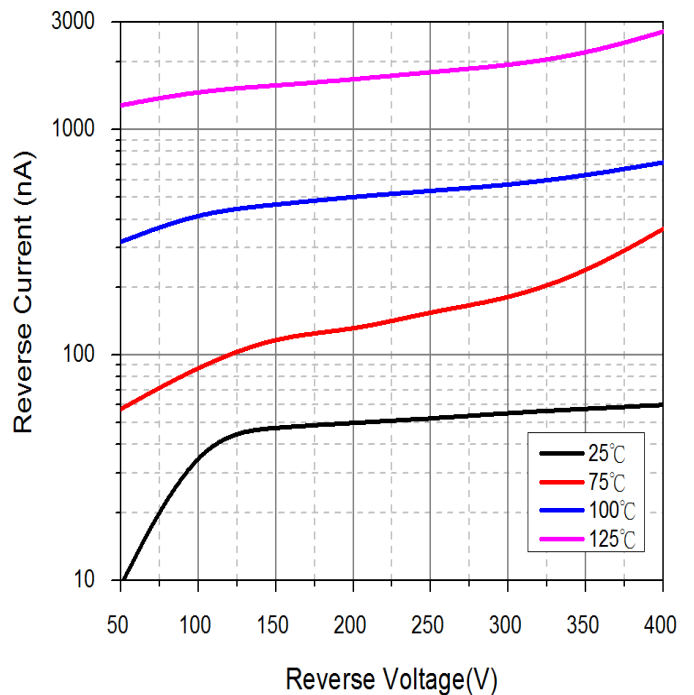
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

