

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

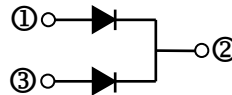
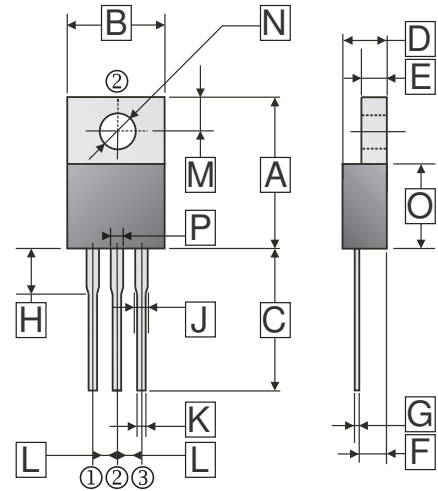
## FEATURES

- Fast switching for high efficiency
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 25 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-0

## ORDER INFORMATION

Part Number	Type
SF10ED20	Lead (Pb)-free
SF10ED20-C	Lead (Pb)-free and Halogen-free

### TO-220



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

(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%.)

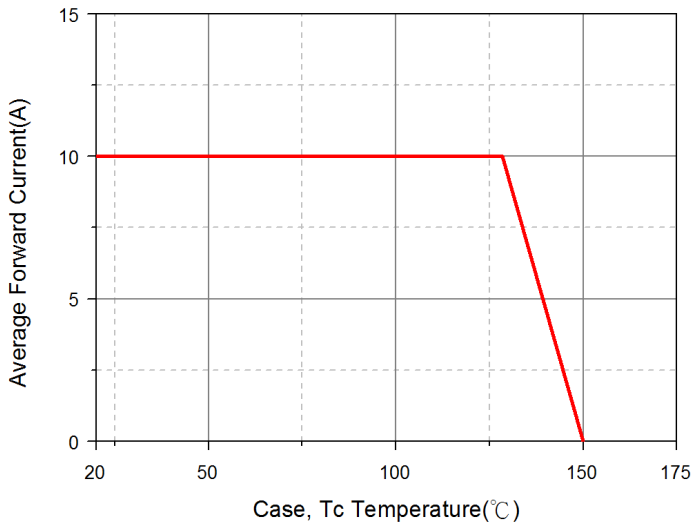
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	200	V
Working Peak Reverse Voltage	$V_{RWM}$	200	V
DC Blocking Voltage	$V_R$	200	V
Average Rectifier Forward Current	Per Leg	5	A
	Per Device	10	
Non-Repetitive Peak Surge Current @Surge applied at rate load conditions half-wave, single phase, 60Hz	$I_{FSM}$	60	A
Max. Instantaneous Forward Voltage @ $I_F=5A$	$T_A=25^\circ C$	0.98	V
	$T_A=125^\circ C$	0.88	
Max. Instantaneous Reverse Current <sup>2</sup>	$T_A=25^\circ C$	5	$\mu A$
	$T_A=125^\circ C$	50	
Reverse Recovery Time <sup>3</sup>	$T_{RR}$	25	nS
Typical Junction Capacitance <sup>1</sup>	$C_J$	45	pF
Thermal Resistance	$R_{\theta JC}$	2	$^\circ C/W$
Operating Junction & Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ C$

Notes:

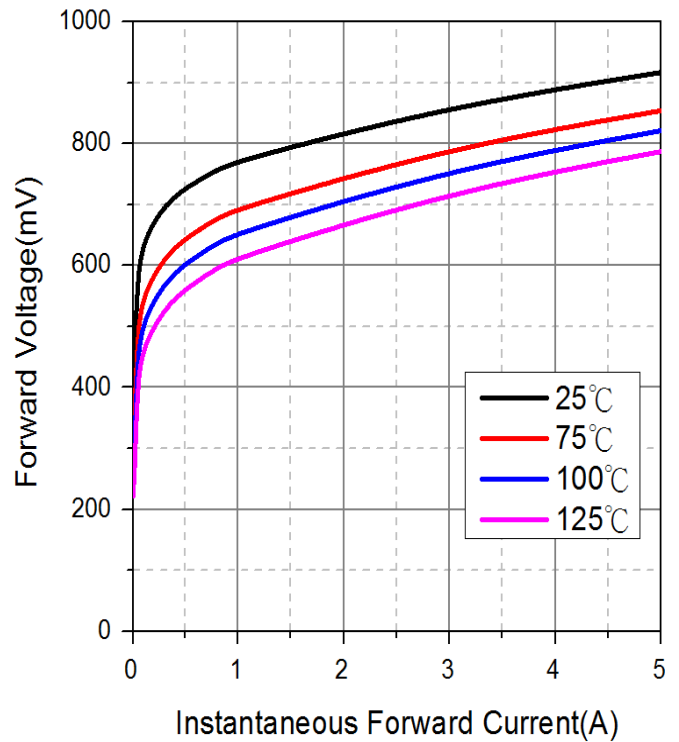
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300 $\mu s$ , Duty Cycle  $\leq 2\%$ .
3.  $I_F=0.5A, I_R=1A, I_{RR}=0.25A$ .

**RATINGS AND CHARACTERISTIC CURVES**

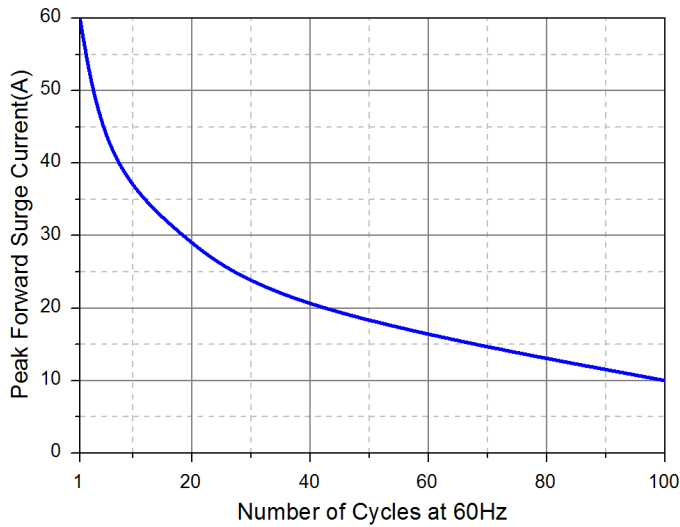
Typical Forward Current Derating Curve



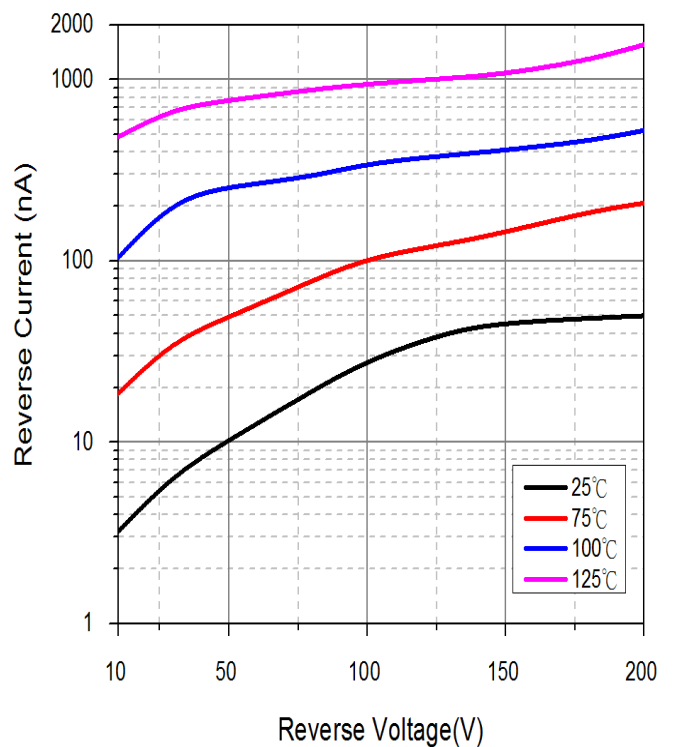
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

