Elektronische Bauelemente

SF20TD40

Voltage 400 V

20.0 Amp Super Fast Recovery Rectifier

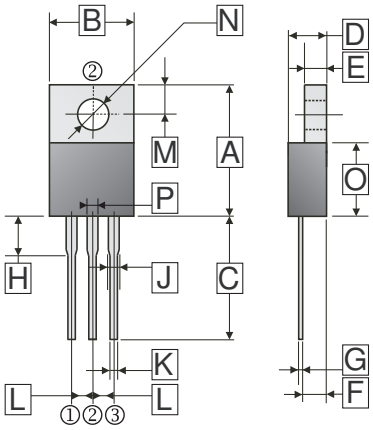
RoHS Compliant Product

A suffix of "-C" specifies halogen free

FEATURES

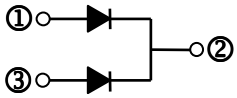
- Fast switching for high efficiency
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 30 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-0

TO-220



ORDER INFORMATION

Part Number	Type
SF20TD40	Lead (Pb)-free
SF20TD40-C	Lead (Pb)-free and Halogen-free



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%.)

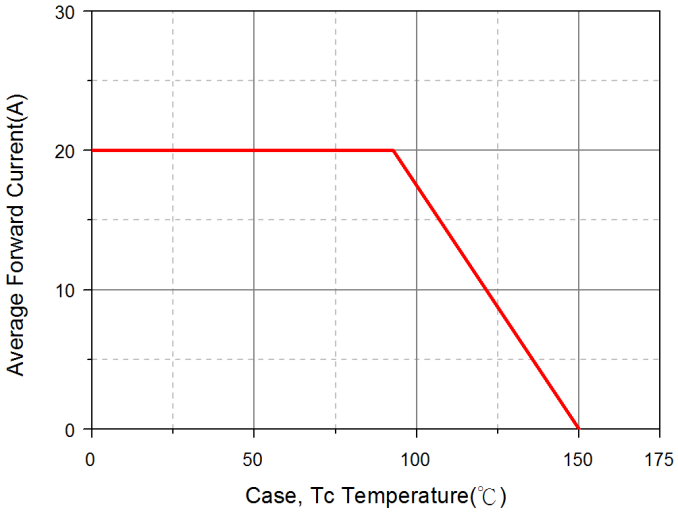
Parameter		Symbol	Rating	Unit
Peak Repetitive Reverse Voltage		V_{RRM}	400	V
Working Peak Reverse Voltage		V_{RWM}	400	V
DC Blocking Voltage		V_R	400	V
Average Rectifier Forward Current		$I_{F(AV)}$	20	A
Non-Repetitive Peak Surge Current @ Surge applied at rate load conditions half-wave, single phase,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

Notes:

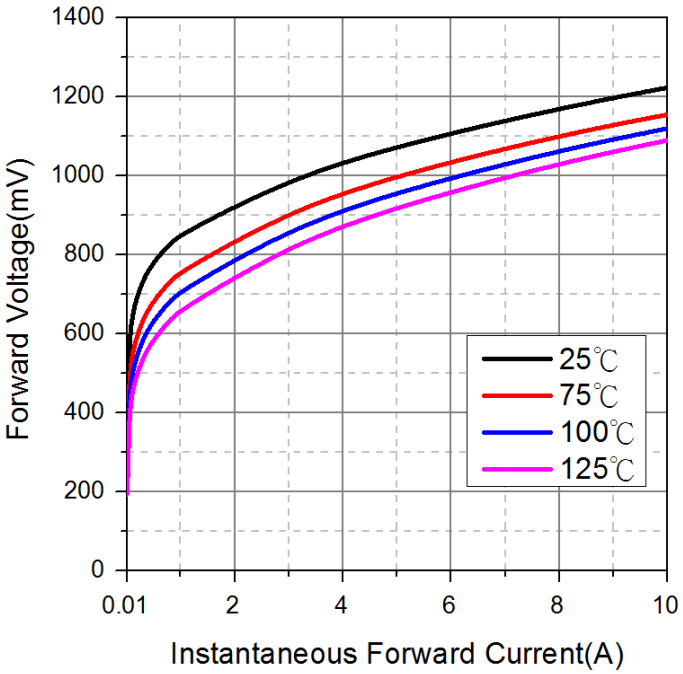
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300μs, Duty Cycle≦2%.
3. I_F=0.5A, I_R =1A, I_{RR}=0.25A.

RATINGS AND CHARACTERISTIC CURVES

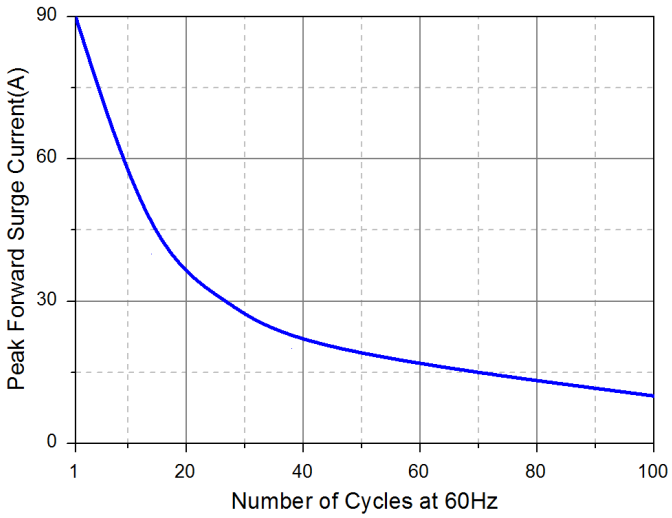
Typical Forward Current Derating Curve



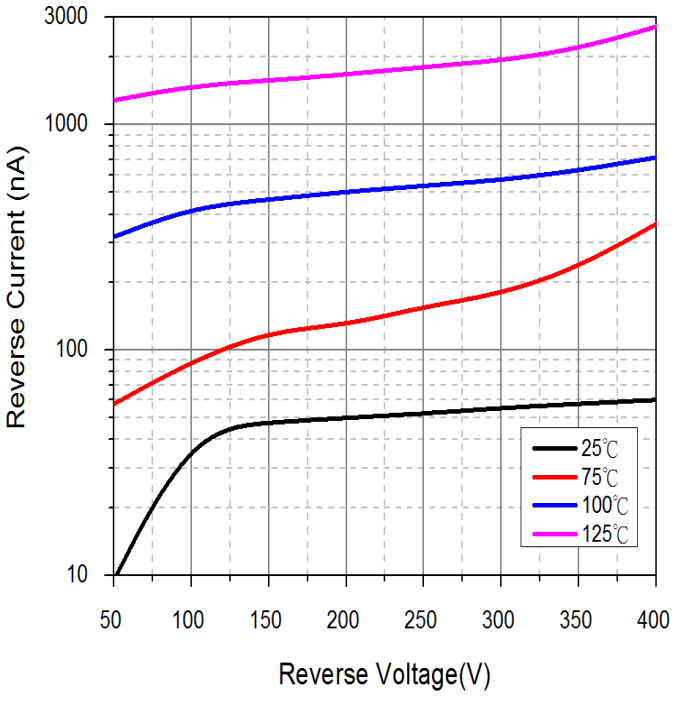
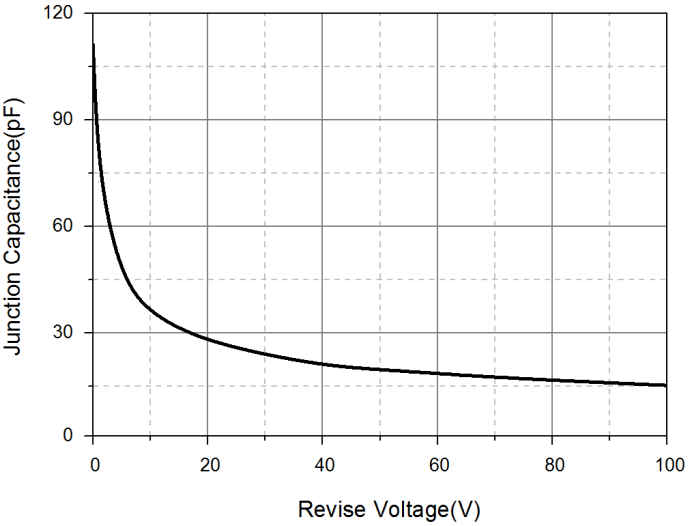
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance