

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

FEATURES

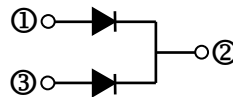
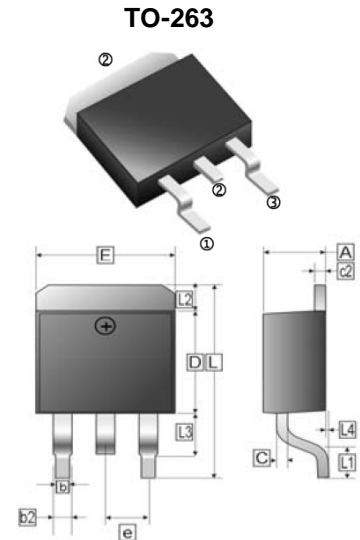
- Fast switching for high efficiency
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 30 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-0

PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-263	0.8K	13 inch

ORDER INFORMATION

Part Number	Type
SF20TD40D	Lead (Pb)-free
SF20TD40D-C	Lead (Pb)-free and Halogen-free



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	2.5	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%.)

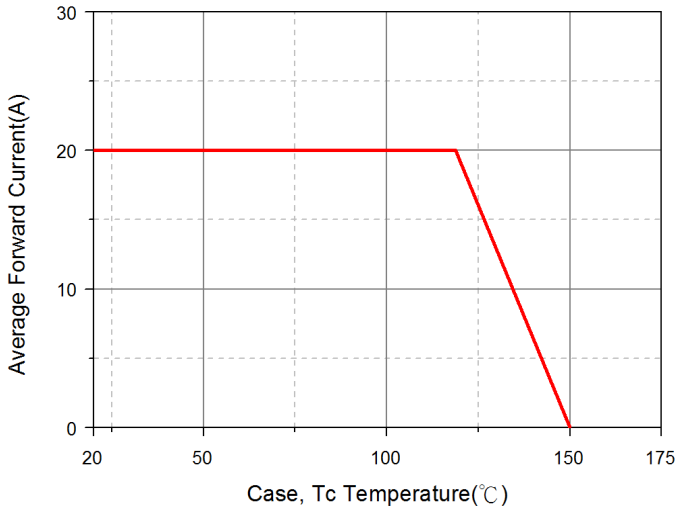
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	400	V
Working Peak Reverse Voltage	V_{RWM}	400	V
DC Blocking Voltage	V_R	400	V
Average Rectifier Forward Current	Per Leg	10	A
	Per Device	20	
Non-Repetitive Peak Surge Current @ Surge applied at rate load conditions half-wave, single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

Notes:

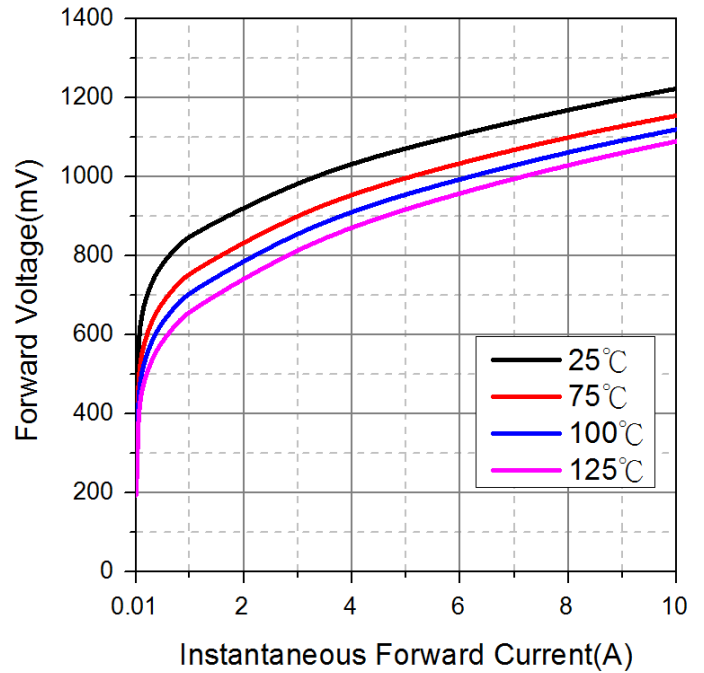
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2\%$.
3. $I_F=0.5A$, $I_R=1A$, $I_{RR}=0.25A$.

RATINGS AND CHARACTERISTIC CURVES

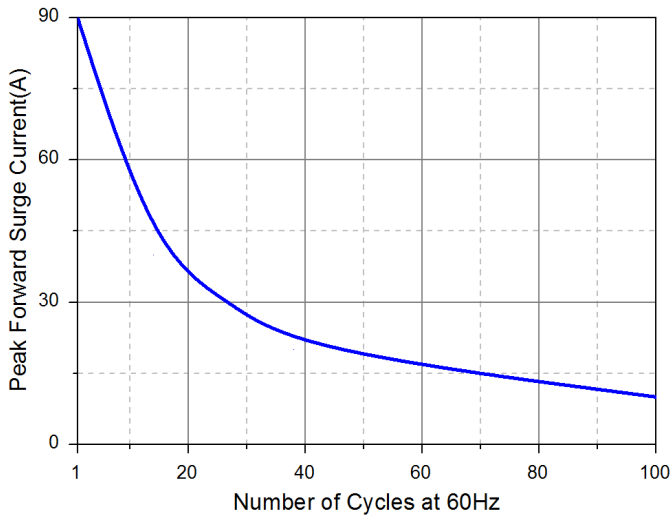
Typical Forward Current Derating Curve



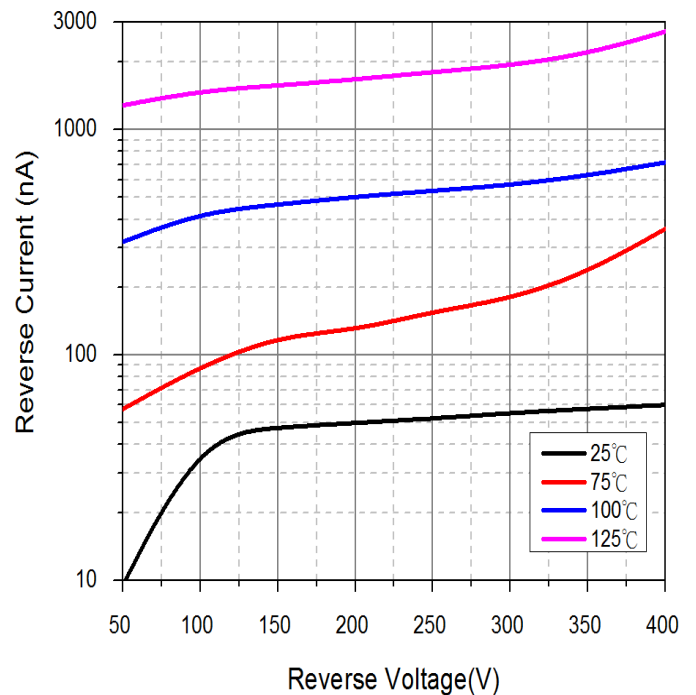
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

