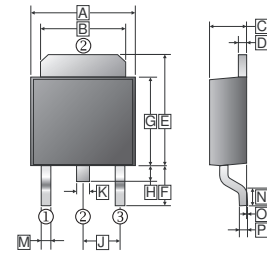
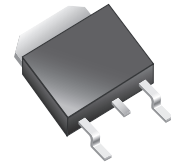


RoHS Compliant Product  
A suffix of "-C" specifies halogen free

**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-252 (D-Pack)**



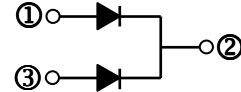
**PACKAGE INFORMATION**

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

**ORDER INFORMATION**

Part Number	Type
SF10TD40D1	Lead (Pb)-free
SF10TD40D1-C	Lead (Pb)-free and Halogen-free

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.3	6.9	J	2.3 REF.	
B	4.95	5.53	K	0.89 REF.	
C	2.1	2.5	M	0.45	1.14
D	0.4	0.9	N	1.55 TYP.	
E	6	7.7	O	0	0.15
F	2.90 REF.		P	0.58 REF.	
G	5.4	6.4			
H	0.6	1.2			



**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%.)

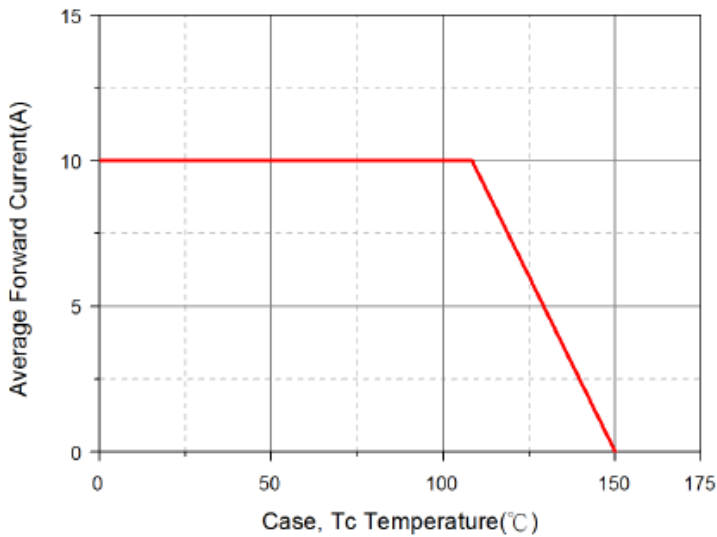
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	V
Working Peak Reverse Voltage	$V_{RWM}$	400	V
DC Blocking Voltage	$V_R$	400	V
Average Rectifier Forward Current	Per Leg	5	A
	Per Device	10	
Non-Repetitive Peak Surge Current @ Surge applied at rate load conditions half-wave, single phase, 60Hz	$I_{FSM}$	50	A
Max. Instantaneous Forward Voltage @ $I_F=5A$	$V_F$	1.3	V
Max. Instantaneous Reverse Current <sup>2</sup>	$T_J=25^\circ C$	5	$\mu A$
	$T_J=100^\circ C$	20	
Reverse Recovery Time <sup>3</sup>	$T_{RR}$	30	nS
Typical Junction Capacitance <sup>1</sup>	$C_J$	20	pF
Typical Thermal Resistance from Junction to Case <sup>4</sup>	$R_{\theta JC}$	6	$^\circ C / W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ C$

Notes:

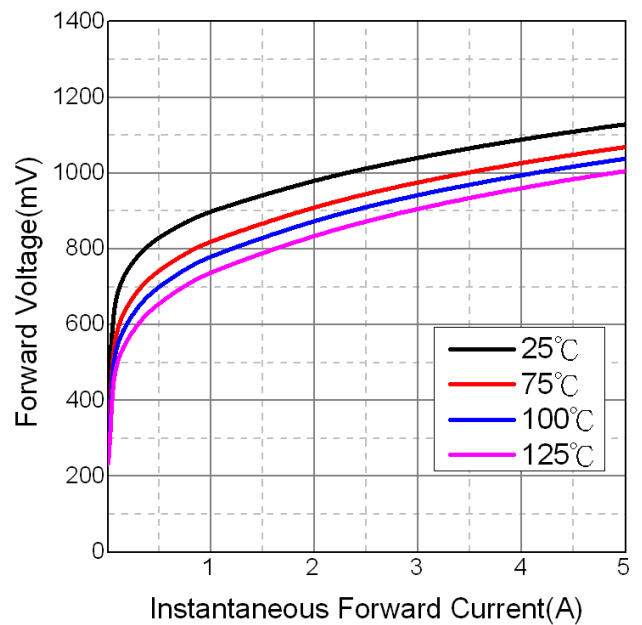
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300 $\mu s$ , Duty Cycle  $\leq 2\%$ .
3.  $I_F=0.5A, I_R=1A, I_{RR}=0.25A$ .
4. Surface mounted on 2.5cm x 2.5cm x 0.5mm copper pad area.

**RATINGS AND CHARACTERISTIC CURVES**

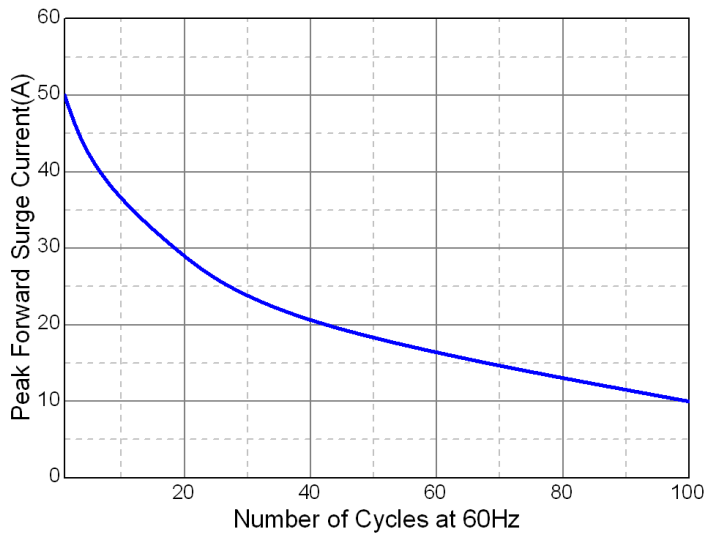
Typical Forward Current Derating Curve



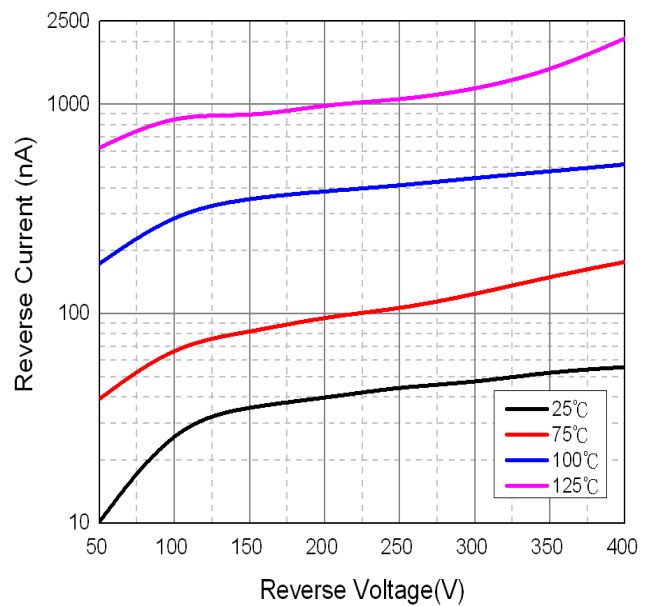
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

