

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

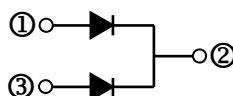
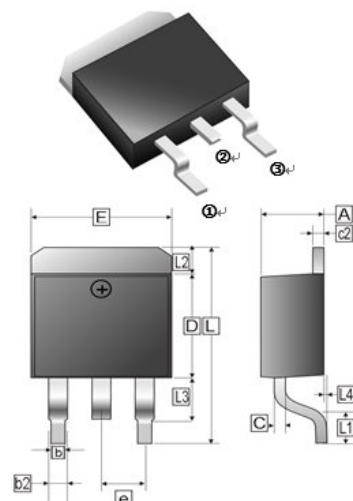
## PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-263	0.8K	13 inch

## ORDER INFORMATION

Part Number	Type
SF10TD30D	Lead (Pb)-free
SF10TD30D-C	Lead (Pb)-free and Halogen-free

## TO-263(D<sup>2</sup>-PAK)



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%.)

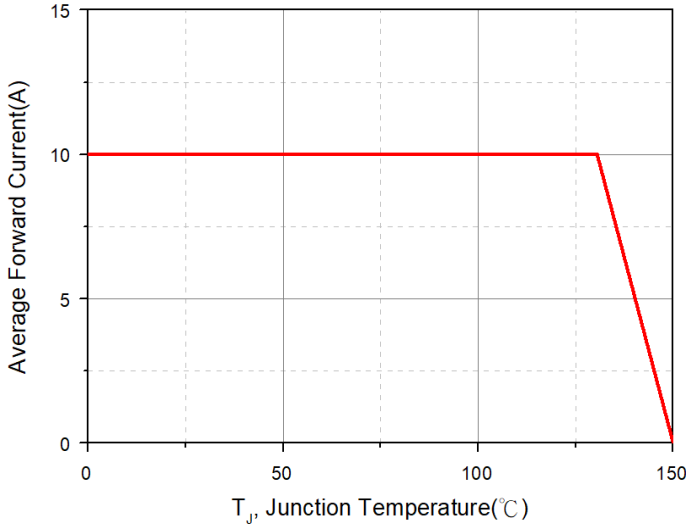
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	300	V
Working Peak Reverse Voltage	$V_{RWM}$	300	V
DC Blocking Voltage	$V_R$	300	V
Average Rectifier Forward Current	Per Leg	5	A
	Per Device	10	
Non-Repetitive Peak Surge Current @Surge applied at rate load conditions half-wave, single phase, 60Hz	$I_{FSM}$	80	A
Max. Instantaneous Forward Voltage @ $I_F=5A$	$V_F$	1.3	V
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>	$T_{RR}$	30	nS
Typical Junction Capacitance <sup>1</sup>	$C_J$	44	pF
Typical Thermal Resistance from Junction to Case <sup>4</sup>	$R_{\theta JC}$	3	$^\circ C/W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ C$

Notes:

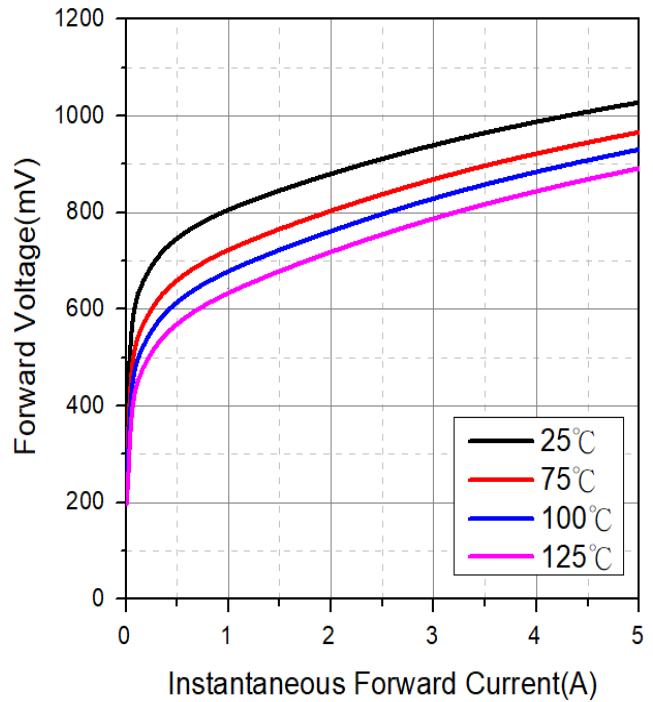
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300 $\mu s$ , Duty Cycle  $\leq 2\%$ .
3.  $I_F=0.5A, I_R=1A, I_{RR}=0.25A$ .
4. Surface mounted on 10cm x 10cm x 1mm copper pad area.

**RATINGS AND CHARACTERISTIC CURVES**

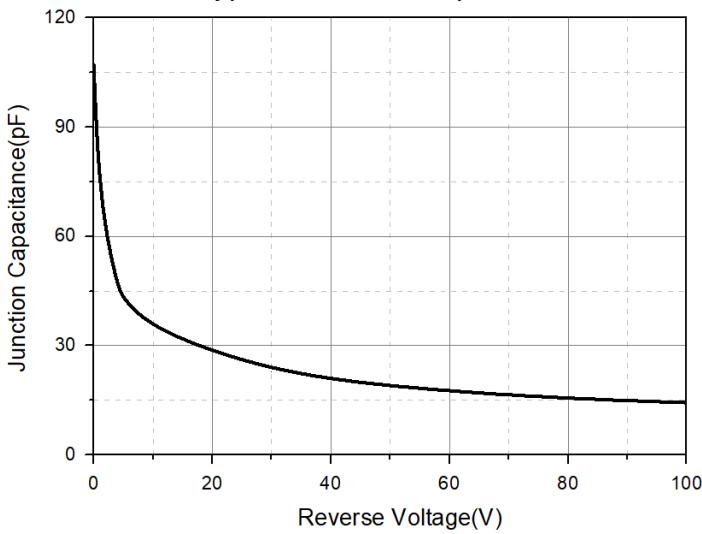
Typical Forward Current Derating Curve



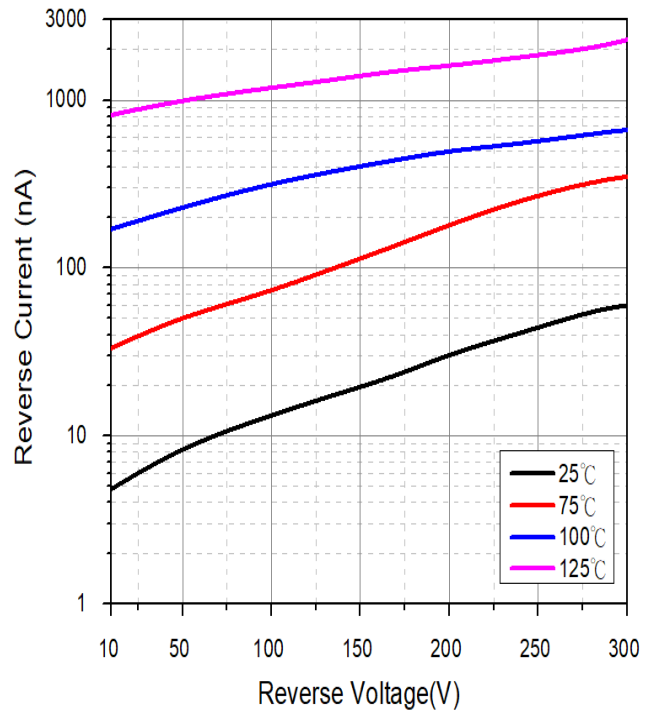
Typical Forward Characteristic



Typical Junction Capacitance



Typical Reverse Characteristic



Maximum Non-Repetitive Forward Surge Current

