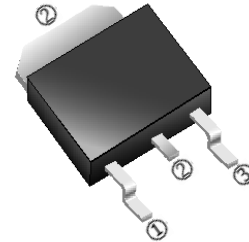


RoHS Compliant Product
A suffix of "-C" specifies halogen free

FEATURES

- Fast Switching for High Efficiency
- 175°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

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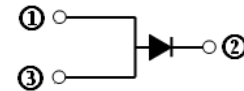


PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

ORDER INFORMATION

Part Number	Type
SF10E30D1	Lead (Pb)-free
SF10E30D1-C	Lead (Pb)-free and Halogen-free



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%.)

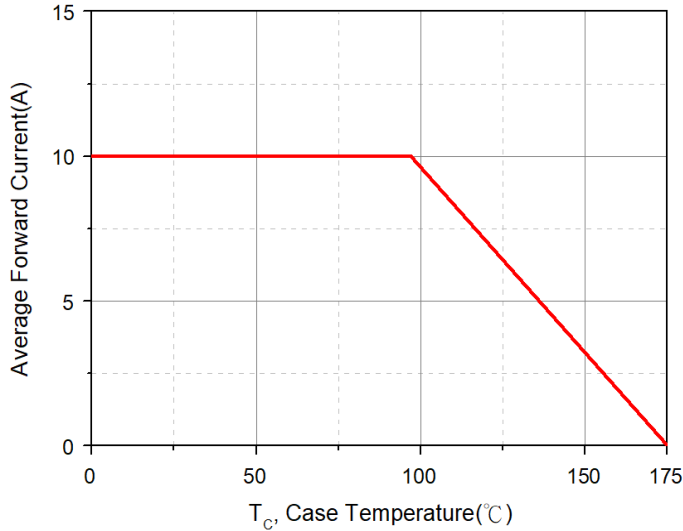
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	300	V
Working Peak Reverse Voltage	V_{RWM}	300	V
DC Blocking Voltage	V_R	300	V
Average Rectifier Forward Current	$I_{F(AV)}$	10	A
Non-Repetitive Peak Surge Current @Surge applied at rate load conditions half-wave, single phase, 60Hz	I_{FSM}	150	A
Thermal Resistance from Junction-Case	$R_{\theta JC}$	6	°C/W
Operating Junction & Storage Temperature Range	T_J, T_{STG}	175, -55~150	°C

ELECTRICAL CHARACTERISTICS

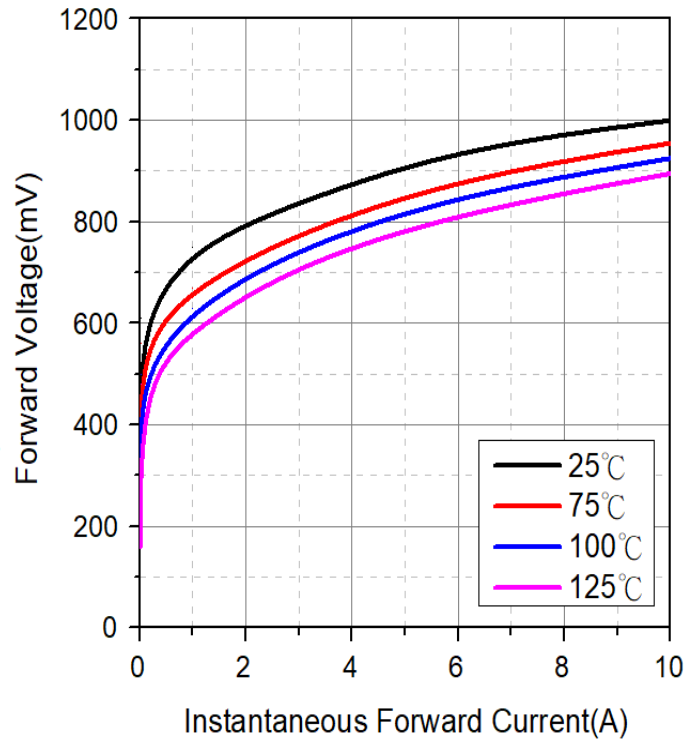
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	V_F	1	1.3	V	$I_F=10A, T_J=25^\circ C$
		0.58	-		$I_F=1A, T_J=125^\circ C$
		0.9	-		$I_F=10A, T_J=125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	0.2	5	uA	$T_J=25^\circ C$
		5	20		$T_J=125^\circ C$
Reverse Recovery Time	T_{RR}	17	25	nS	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$
Typical Junction Capacitance	C_J	80	-	pF	$V_R=4V, f=1MHz$

RATINGS AND CHARACTERISTIC CURVES

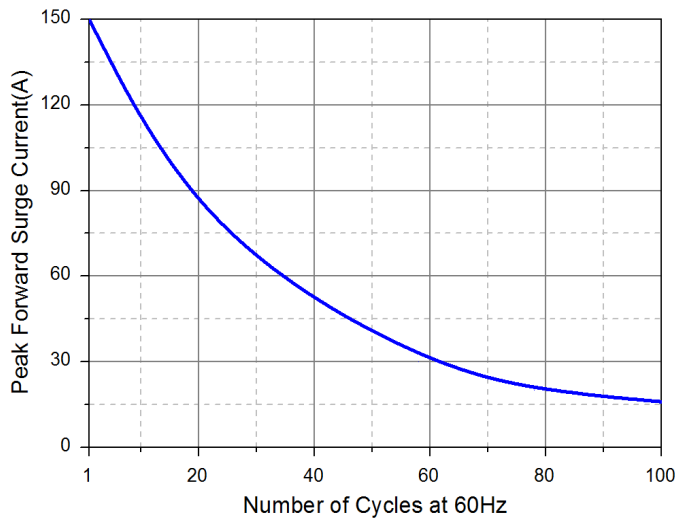
Typical Forward Current Derating Curve



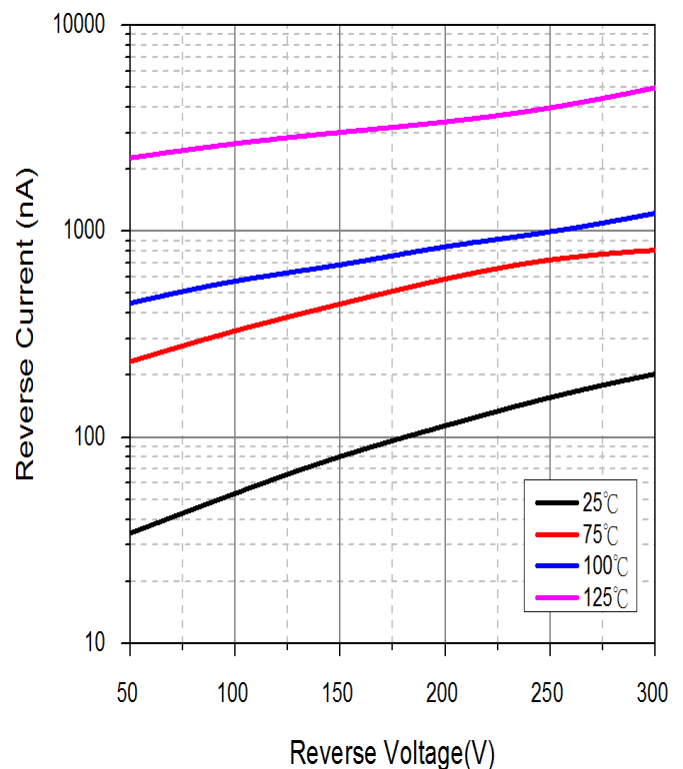
Typical Forward Characteristic



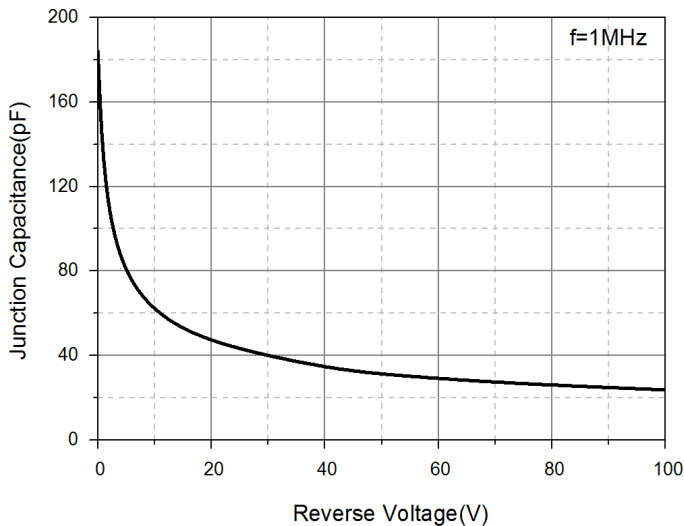
Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic

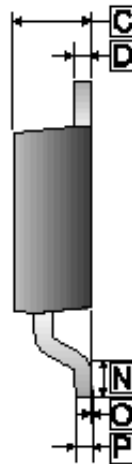
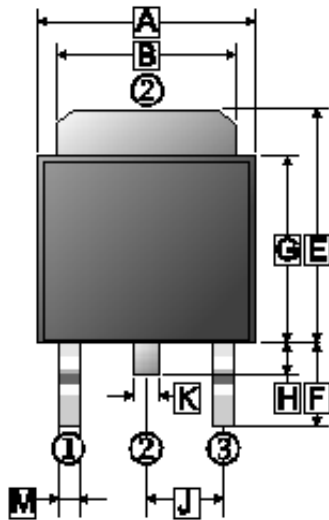


Typical Junction Capacitance



PACKAGE OUTLINE DIMENSIONS

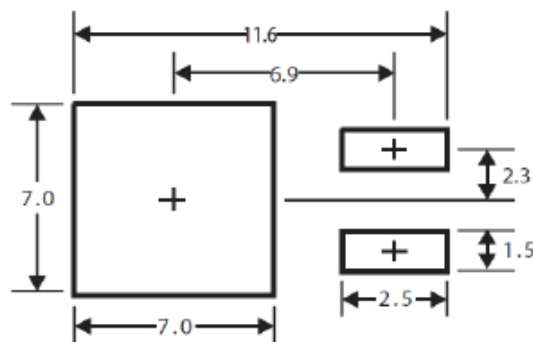
TO-252



REF.	Millimeter	
	Min.	Max.
A	6.30	6.90
B	4.95	5.53
C	2.10	2.50
D	0.40	0.90
E	6.00	7.70
F	2.90 REF.	
G	5.40	6.40
H	0.60	1.20
J	2.30 REF.	
K	0.89 REF.	
M	0.45	1.14
N	1.55 TYP.	
O	0	0.15
P	0.58 REF.	

MOUNTING PAD LAYOUT

TO-252



*Dimensions in millimeters