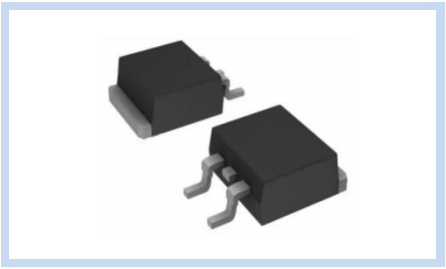
Superfast Recovery Rectifier
50~600V 5A TO-252

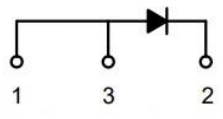
SF5xYD Series

MERITEK

FEATURES



- Glass Passivated Chip Junction
- High Forward Surge Current Capability
- Low Switching Losses and High Efficiency
- Superfast Recovery Times for Switch Mode
- Applications: DC to DC Converter, UPS, Inductive Heating and Melting, Free-Wheeling



RoHS

MECHANICAL DATA

- Case: TO-252, Epoxy Molded Meets UL94V-0
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

ELECTRICAL CHATACTERISTIC

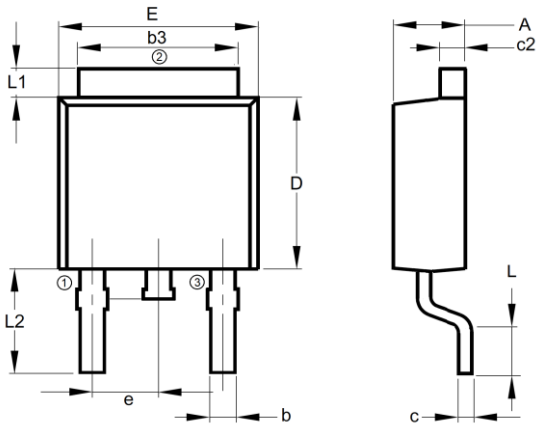
Parameter, T_A=25˚C		Symbol	SF51YD	SF52YD	SF54YD	SF56YD	SF58YD	Unit
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	5					A
Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed on Rate Load		I_{FSM}	150					A
Maximum Forward Voltage at 5A		V_F	1.0	1.0	1.0	1.3	1.7	V
Maximum Reverse Current at Rated DC Blocking Voltage	V_R=V_{RRM}, T_A=25˚C	I_R	5					μA
	V_R=V_{RRM}, T_A=125˚C		500					
Diode Junction Capacitance at f=1MHz, V_R = 4V		C_J	50					pF
Maximum Reverse Recovery Time		t_{rr}	35					nS
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 ~ +150					˚C

Notes: Reverse recovery test conditions: I_F=0.5A, I_R=1A, I_{RR}=0.25A

DIMENSIONS

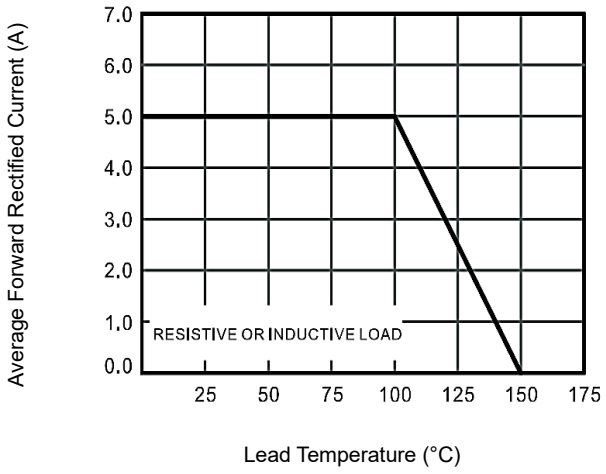
Item	Min (mm)	Max (mm)
A	2.50	2.10
b	0.45	1.00
b3	5.10	5.50
c	0.30	0.70
c2	0.30	0.70
D	5.80	6.30
E	6.30	6.80
e	2.10	2.50
L	1.20	1.90
L1	0.80	1.40
L2	2.70	3.40

Notes: Pin 2: Cathode; Pin 1&3: Anode

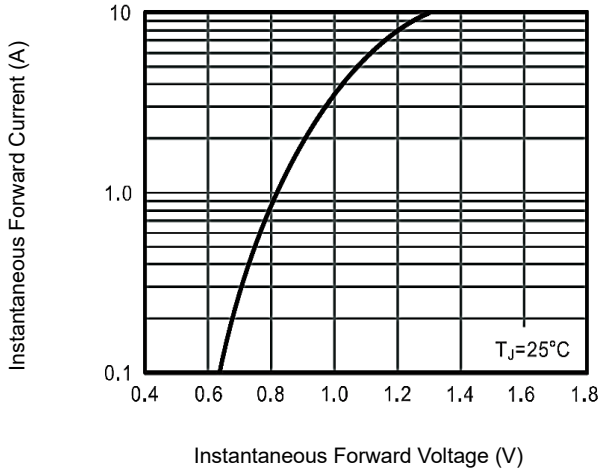


CHARACTERISTIC CURVES

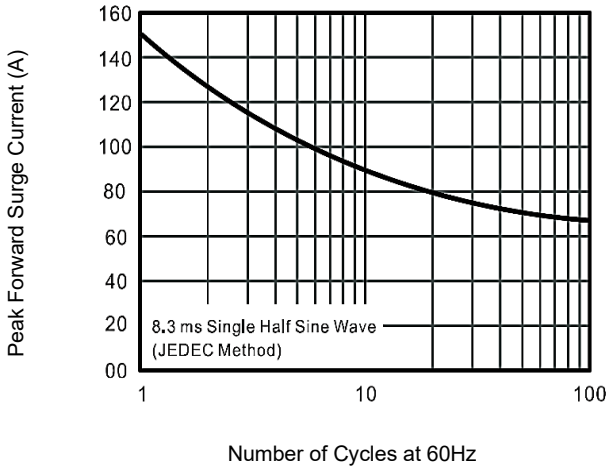
Typical Forward Current Derating Curve



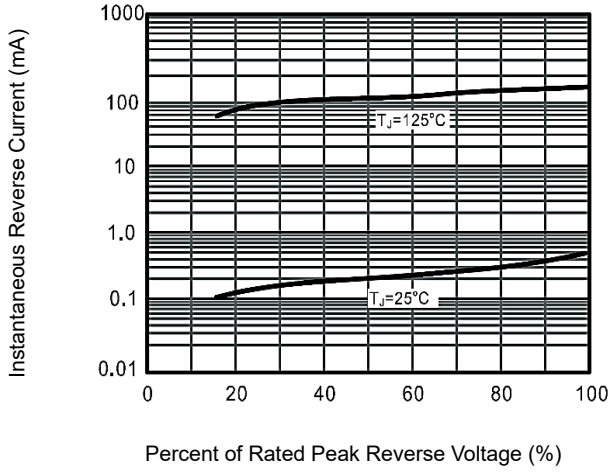
Typical Instantaneous Forward Characteristics



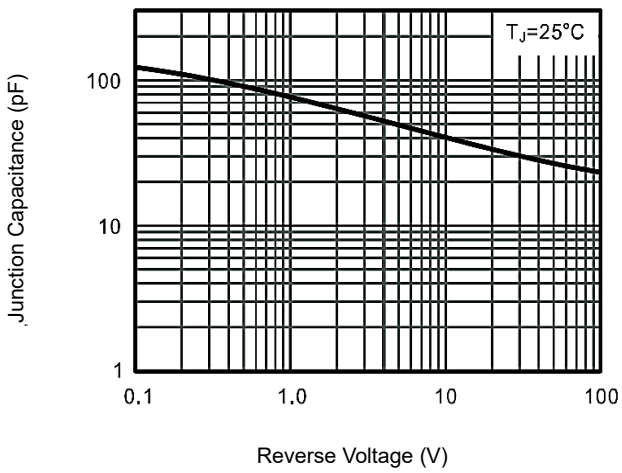
Maximum Non-Repetitive Forward Surge Current



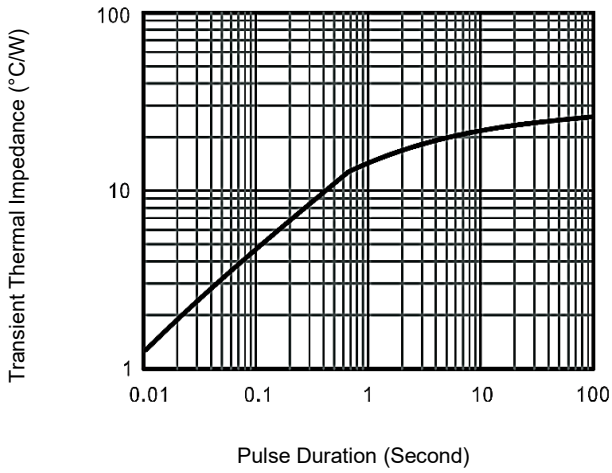
Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Impedance



*Specifications subject to change without notice.