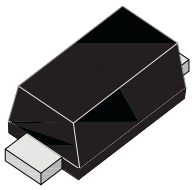
TENTATIVE DATA SHEET

FES1BW TG.....FES1JW TG

1.0 Amp. Surface Mount Top Glass Passivated Ultrafast Recovery Rectifier

SOD123W



Voltage	Current
100 to 600 V	1.0 A

FEATURES

- Top-Glass Technology
- Low profile package
- Ideal for automated placement
- Low power losses, high efficiency
- High surge current capability
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Solder dip 260ºC, 10s
- AEC-Q101 qualified
- Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260º C

AUTOMOTIVE GRADE Available

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** SOD123W. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** Color band denotes cathode end.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test. HE3 suffix for high reliability grade, meets JESD 201 class 2 whisker test.

TYPICAL APPLICATIONS

Used in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive and telecommunication.

Maximun Ratings and Electrical Characteristics at 25°C

		FES1BW TG	FES1DW TG	FES1GW TG	FES1JW TG
Marking Code		2K	2L	2M	2N
V_{RRM}	Maximum Recurrent Peak Reverse Voltage (V)	100	200	400	600
V_{RMS}	Maximum RMS Voltage (V)	70	140	280	420
V_{DC}	Maximum DC Blocking Voltage (V)	100	200	400	600
$I_{F(AV)}$	Forward current at T_C = 120 °C	1.0 A			
I_{FSM}	8.3 ms. peak forward surge current (Jedec Method)	30 A			
V_F	Maximum Instantaneous Forward Voltage at 1.0A	0.95 V		1.3 V	1.7 V
I_R	Maximum DC Reverse Current Tj = 25 °C at Rated DC Blocking Voltage Tj = 100 °C	5 µA 100 µA			
T_{rr}	Maximum Reverse Recovery Time (0.5/1/0.25A)	35 ns			
C_j	Typical Junction Capacitance (1MHz; -4V)	10 pF		8 pF	
$R_{th\ (j-c)}$ $R_{th\ (j-a)}$	Typical Thermal Resistance (5x5 mm^2 x 130 µ Copper Area)	27 °C/W 75 °C/W			
T_j - T_{stg}	Operating Junction and Storage Temperature Range	-55 to + 150 °C			

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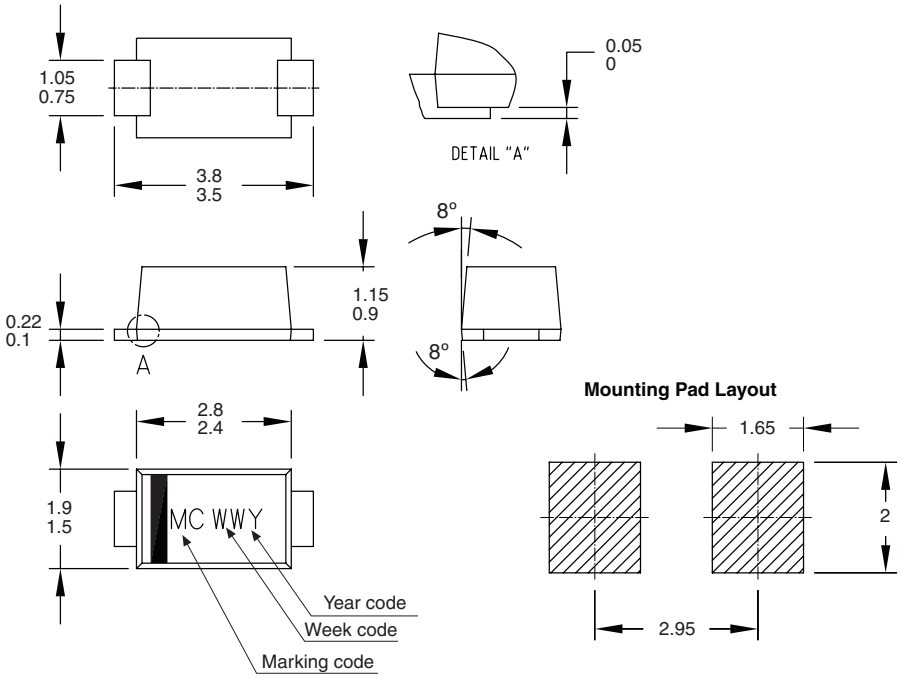
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FES1DW TRTB	TRTB	13" diameter tape and reel	10,000	0.0196
FES1DW HE3 TRTB	TRTB	13" diameter tape and reel	10,000	0.0196

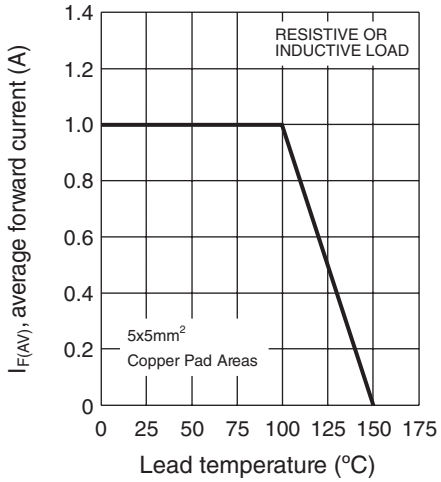
Package Outline Dimensions: (mm) SOD123W



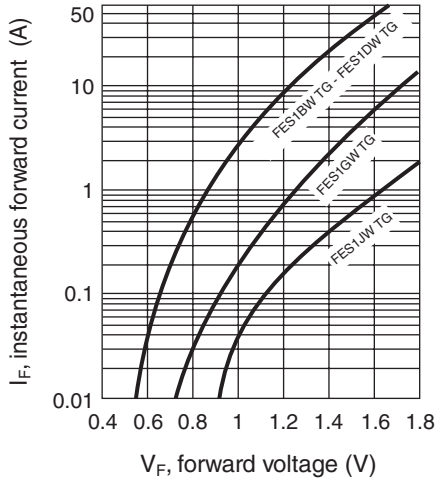
1.0 Amp. Surface Mount Top Glass Passivated Ultrafast Recovery Rectifier

Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

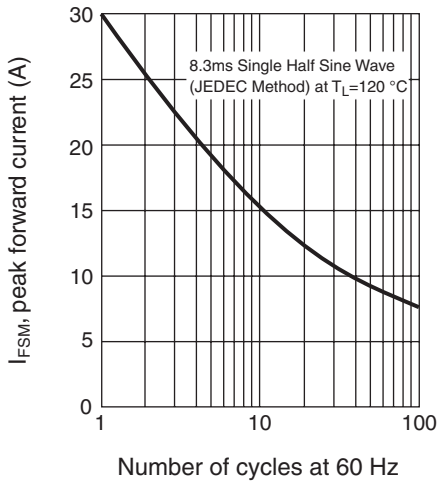
MAXIMUM FORWARD CURRENT DERATING CURVE



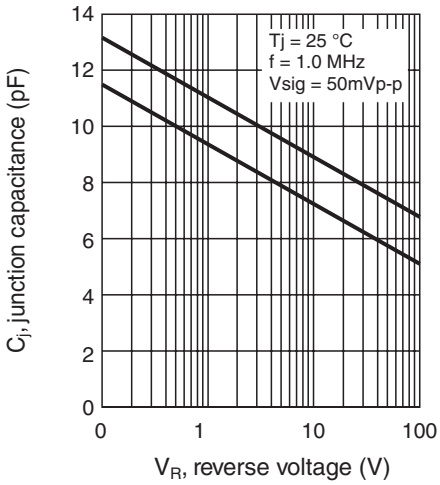
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



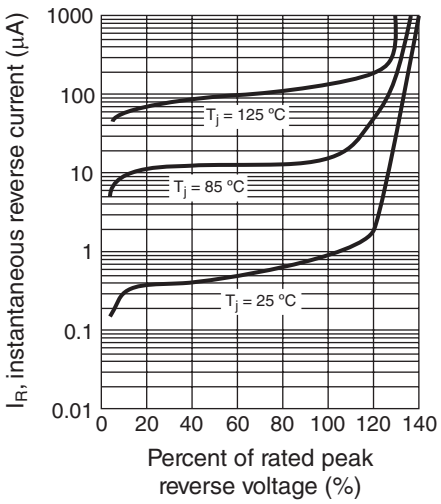
MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



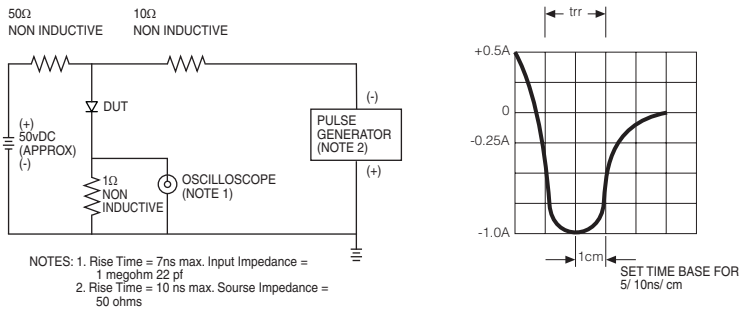
TYPICAL JUNCTION CAPACITANCE



TYPICAL REVERSE CHARACTERISTICS



REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm 22 pf
2. Rise Time = 10 ns max. Sourse Impedance = 50 ohms

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