



## 1.0A Surface Mount Schottky Barrier Rectifier - 40V - 200V

### SOD-123H PACKAGE

### Features

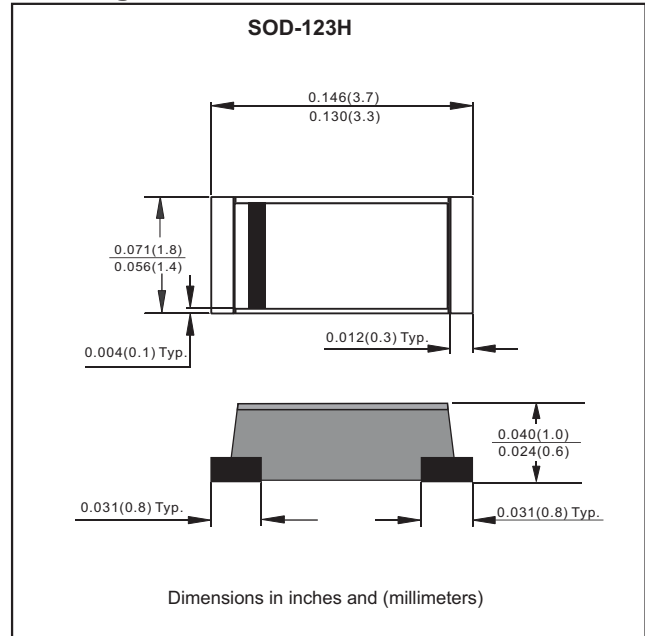
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- **Moisture Sensitivity Level 1**

### Mechanical data

Epoxy : UL94-V0 rated flame retardant

- Case : Molded plastic, SOD-123H
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOLS	FM140-MH	FM160-MH	FM1100-MH	FM1150-MH	FM1200-MH	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	40	60	100	150	200	Volts
Maximum RMS voltage	V <sub>RMS</sub>	28	42	70	105	140	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	40	60	100	150	200	Volts
Maximum average forward rectified current	I <sub>O</sub>	1.0					Amps
Peak forward surge current 8.3ms single half sine-wave (JEDEC Method)	I <sub>FSM</sub>	30					Amps
Maximum instantaneous forward voltage at I <sub>F</sub> =1.0A	V <sub>F</sub>	0.50	0.70	0.85	0.90	0.92	Volts
Maximum DC reverse current T <sub>J</sub> =25°C at rated DC blocking voltage T <sub>J</sub> =100°C	I <sub>R</sub>	0.5 10					mA
Typical junction capacitance (Note 1)	C <sub>J</sub>	120					pF
Typical thermal resistance junction to ambient Typical thermal resistance junction to case	R <sub>θJA</sub> R <sub>θJC</sub>	80 40					°C / W °C / W
Operating junction temperature range	T <sub>J</sub>	-55 to +125	-55 to +150				°C
Storage temperature range	T <sub>STG</sub>	-55 to +150					°C

Notes 1: Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts



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## Rating and characteristic curves (FM140-MH THRU FM1200-MH )

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

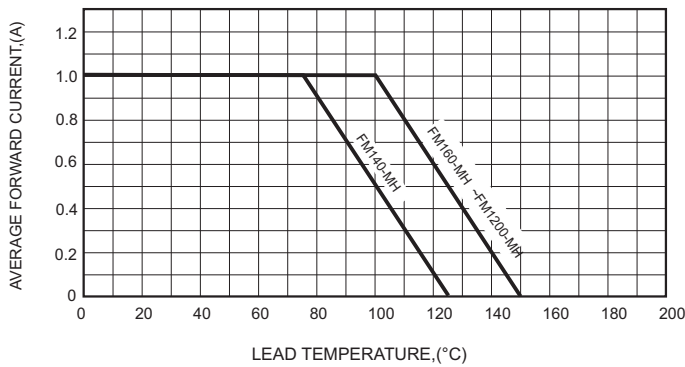


FIG.2-TYPICAL FORWARD CHARACTERISTICS

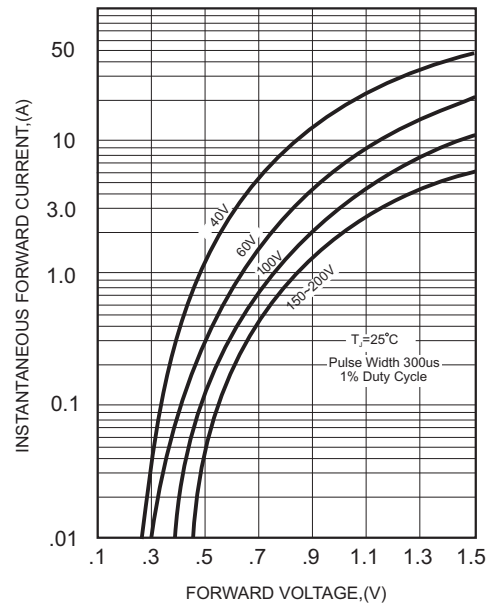


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

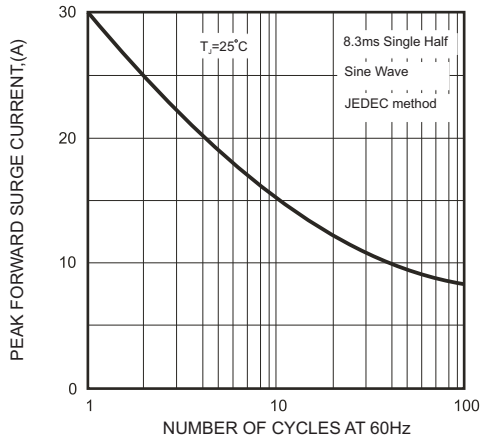


FIG.4-TYPICAL JUNCTION CAPACITANCE

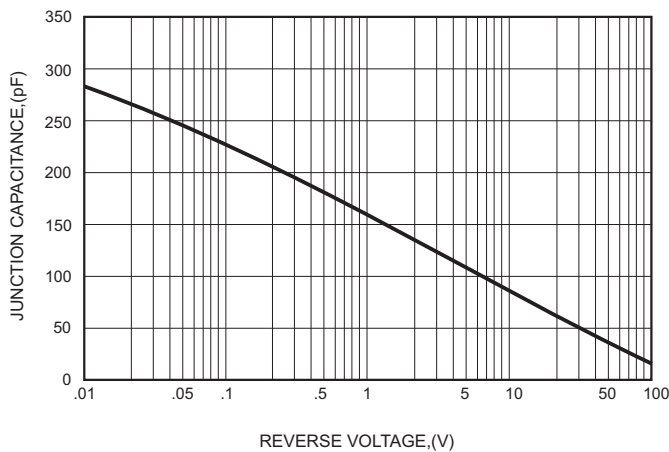
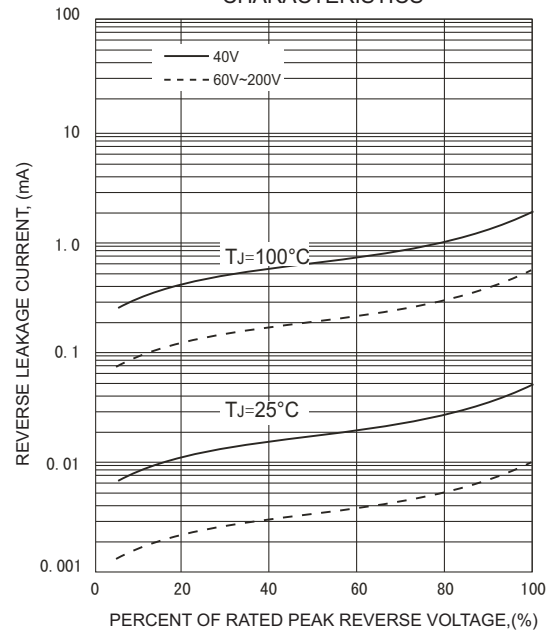




FIG.5 - TYPICAL REVERSE CHARACTERISTICS

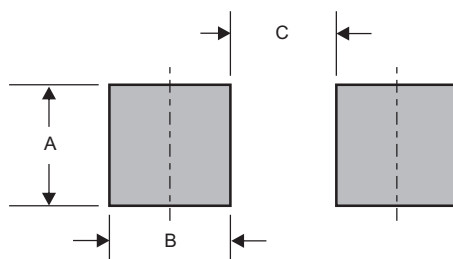


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**SOD-123H PACKAGE**
**Pinning information**

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

**Marking**

Type number	Marking code
FM140-MH	14
FM160-MH	16
FM1100-MH	10
FM1150-MH	115
FM1200-MH	120

**Suggested solder pad layout**


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123H	0.071 (1.80)	0.051 (1.30)	0.067 (1.70)

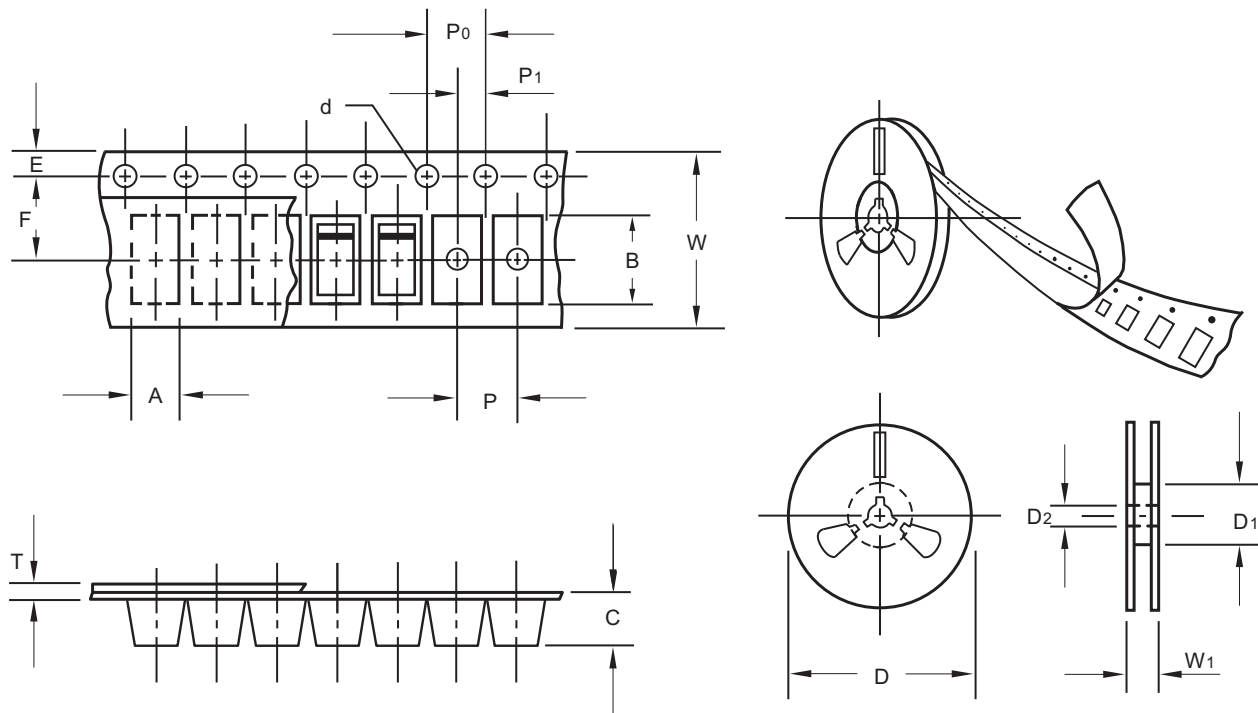
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123H	7"	3,000	4.0	30,000	183*183*123	178	382*262*387	240,000	8.5

Packing information



unit:mm

Item	Symbol	Tolerance	SOD-123H
Carrier width	A	0.1	2.00
Carrier length	B	0.1	3.85
Carrier depth	C	0.1	1.10
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D <sub>1</sub>	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	62.00
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W <sub>1</sub>	1.0	11.40

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.



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### Ordering Information:

Device PN	Packing
Part Number -T <sup>(1)</sup> H <sup>(2)</sup> -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) H is RoHS and Haloge free product for packing code suffix "H"

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