

Surface Mount Ultrafast Rectifiers

FEATURES

- Very low profile - typical height of 0.68mm
- Reduce switching and conduction loss
- Ideal for automated placement
- Ultrafast recovery times for high frequency
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



Micro SMA



APPLICATION

ESH1JM is ideal device for the compact space PCB design.

Specially as boost diode in power factor correction circuitry.

The device is also intended for use as a free wheeling diode in power supplies

For chargers, LED lighting, and other power switching applications.

MECHANICAL DATA

Case: Micro SMA

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free, RoHS compliant

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

Polarity: Indicated by cathode band

Weight: 0.006g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)				
PARAMETER	SYMBOL	ESH1JM		UNIT
Marking code		D7		
Maximum repetitive peak reverse voltage	V _{RRM}	600		V
Maximum average forward rectified current	I _{F(AV)}	1		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	15		A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V _F	TYP.	MAX.	V
		1.25	1.5	
Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C	I _R	TYP.	MAX.	μA
		-	1	
		5	50	
Maximum reverse recovery time (Note 2)	T _{rr}	25		ns
Typical junction capacitance (Note 3)	C _j	3		pF
Typical thermal resistance (Note 4)	R _{θJM}	40		°C/W
	R _{θJA}	92		
Operating junction temperature range	T _J	-55 to +150		°C
Storage temperature range	T _{STG}	-55 to +150		°C

Note 1: Pulse test with PW=300 μsec, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, IRR=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0 V DC

Note 4: Thermal resistance R_{θJA} - from junction to ambient, R_{θJM} - and junction to mount

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
ESH1JM	RS	Suffix "G"	Micro SMA	3000 / 7" Plastic reel

Note: For Micro SMA: Packing code (Whole series with green compound)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
ESH1JM RSG	ESH1JM	RS	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

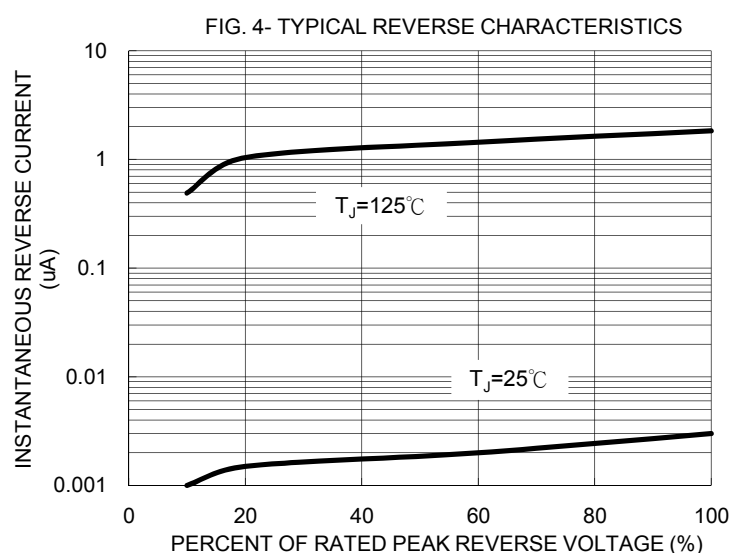
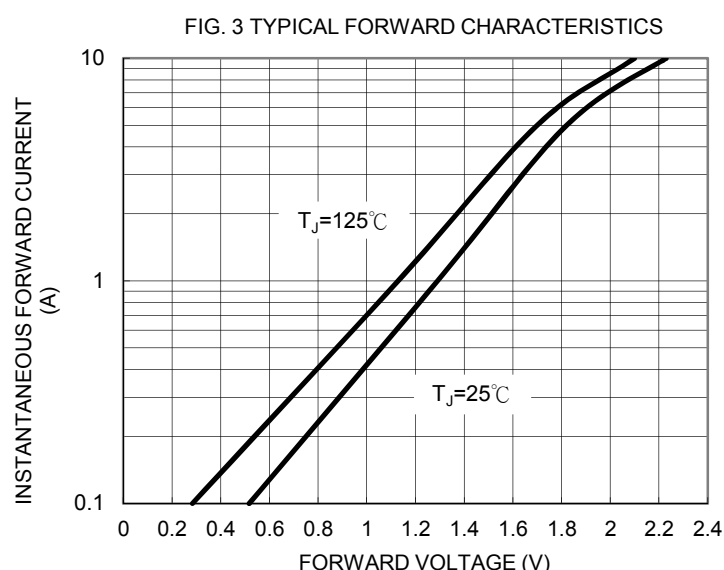
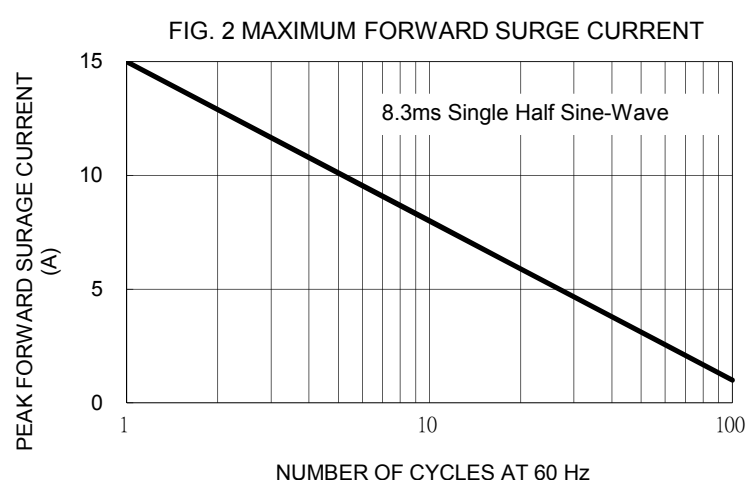
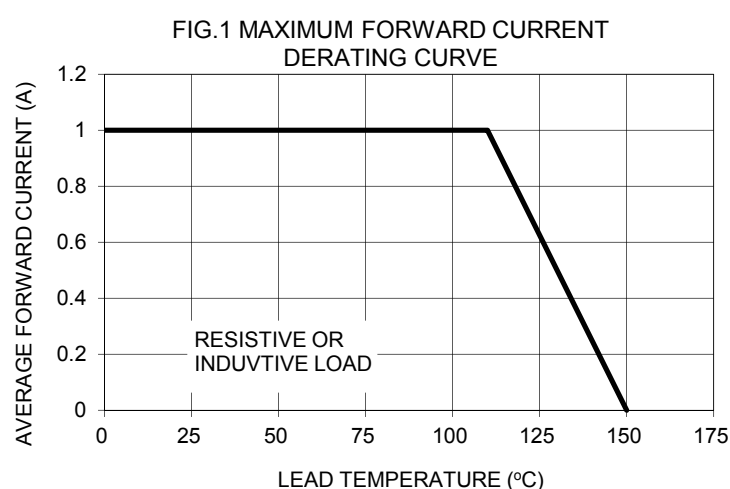
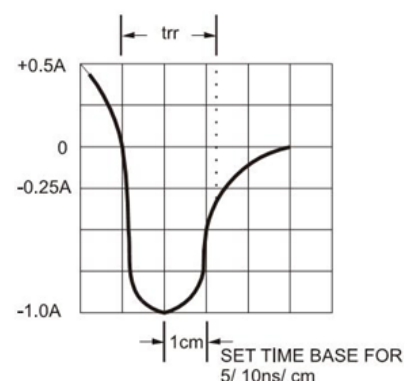
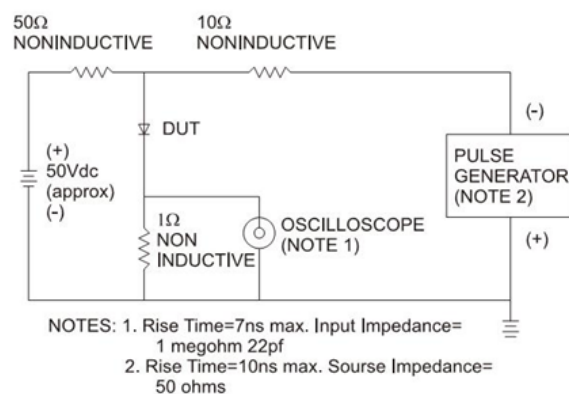
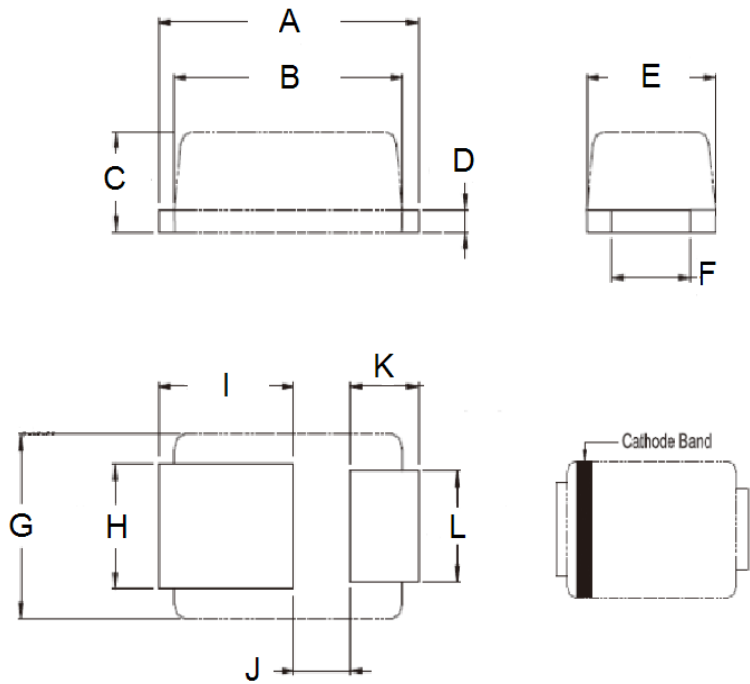


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

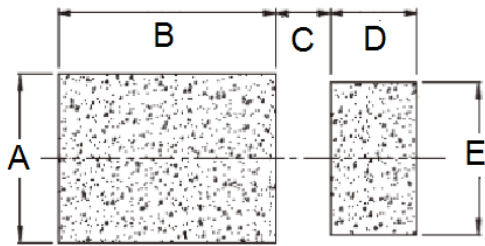


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.30	2.70	0.091	0.106
B	2.10	2.30	0.083	0.091
C	0.63	0.73	0.025	0.029
D	0.10	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	0.65	0.85	0.026	0.034
G	1.15	1.35	0.045	0.053
H	0.75	0.95	0.030	0.037
I	1.10	1.50	0.043	0.059
J	0.55	0.75	0.022	0.030
K	0.55	0.75	0.022	0.030
L	0.65	0.85	0.026	0.034

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)
A	1.1
B	2.0
C	0.5
D	0.8
E	1.0

MARKING DIAGRAM



P/N = Marking code
YW = Date Code