

Surface Mount High Efficiency (Ultra Fast) Rectifiers

Reverse Voltage - 50 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- Low cost
- Ultra fast switching for high efficiency
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- The plastic material carries UL recognition 94V-0

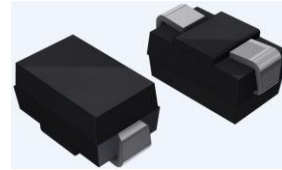
Mechanical Data

- Case: JEDEC A-SMA molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

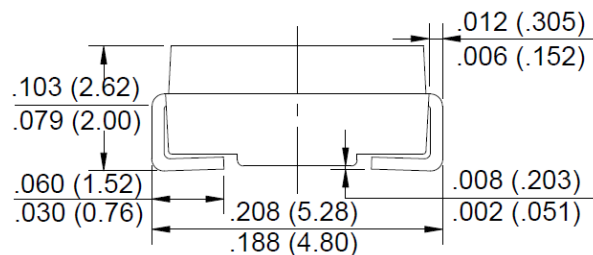
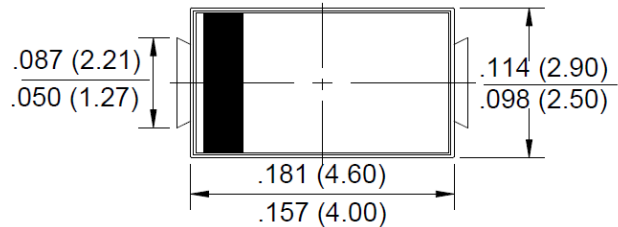
Applications

- For use in SMPS, high frequency inverters, PWM and polarity protection applications

A-SMA



RoHS
COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	HS1AA	HS1BA	HS1DA	HS1GA	HS1JA	HS1KA	HS1MA	Unit
		UF1AA	UF1BA	UF1DA	UF1GA	UF1JA	UF1KA	UF1MA	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @T _A =55 °C	I _(AV)	1.0							A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30							A
Peak Forward Voltage at 1.0 A DC	V _F	1.0		1.3		1.7			V
Maximum DC Reverse Current at Rated @T _J =25 °C	I _R	5.0							μA
DC Blocking Voltage @T _J =100 °C		100							
Maximum Reverse Recovery Time (Note 1)	T _{RR}	50				75			nS
Typical Junction Capacitance (Note2)	C _J	20				10			pF
Typical Thermal Resistance Junction to Lead	R _{θJL}	25							°C/W
Operating Junction Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

Notes: 1. Measured with I_F=0.5A, I_R=1A, I_{RR}=0.25A.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

3. The typical data above is for reference only.

Rating and Characteristic Curves

HS1XA / UF1XA SE

HS1XA / UF1XA SERIES



Fig. 1 - Forward Current Derating Curve

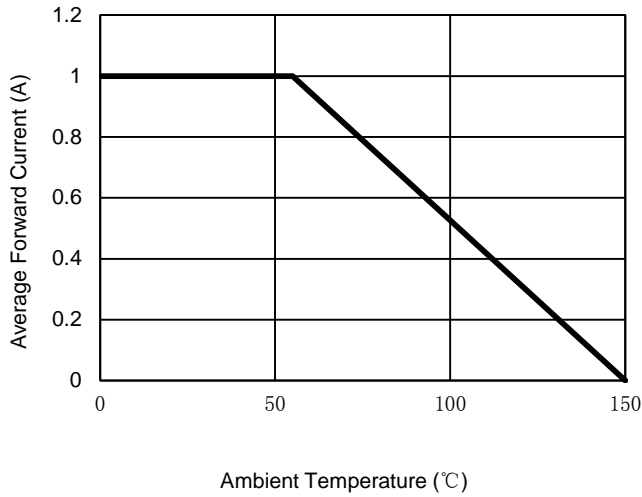


Fig. 2 - Maximum Non-Repetitive Surge Current

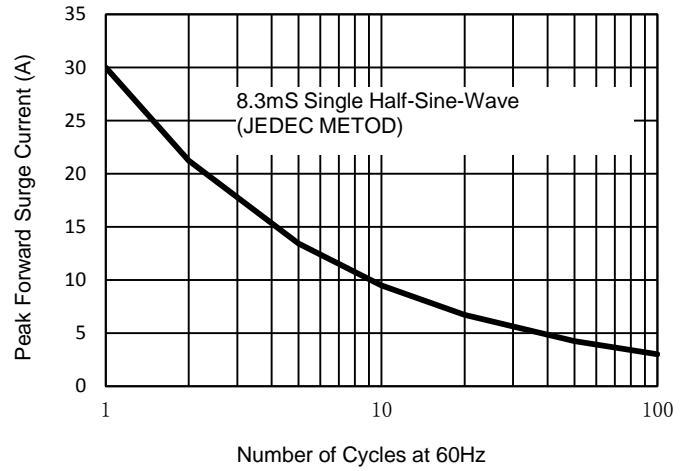


Fig. 3 - Typical Junction Capacitance

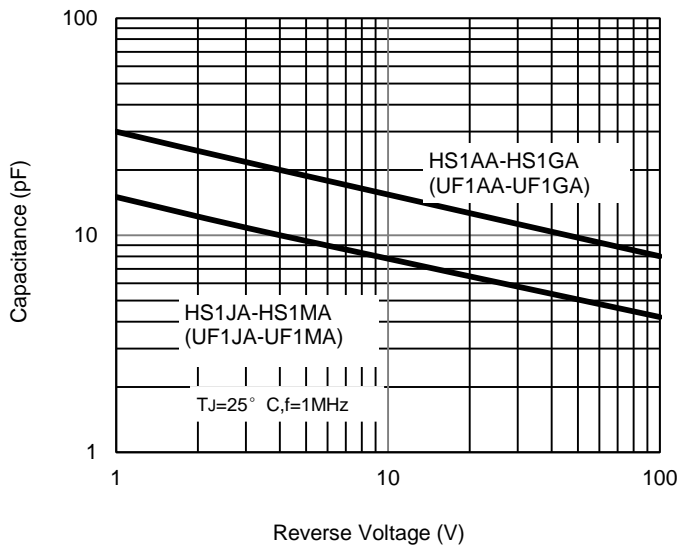


Fig. 4 - Typical Forward Characteristics

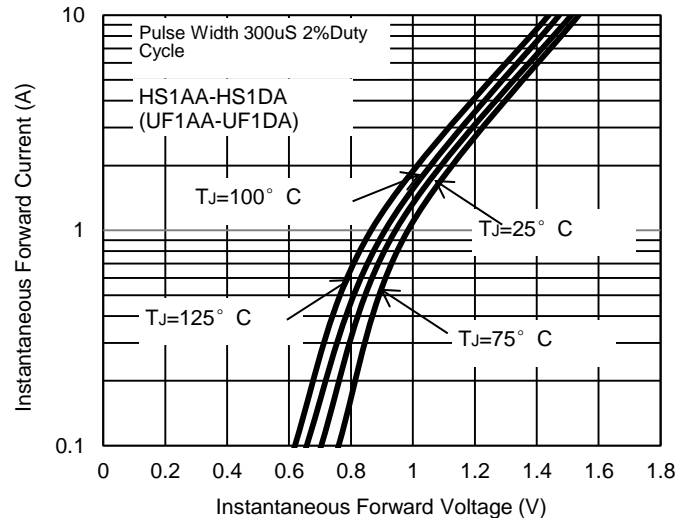


Fig. 5 - Typical Forward Characteristics

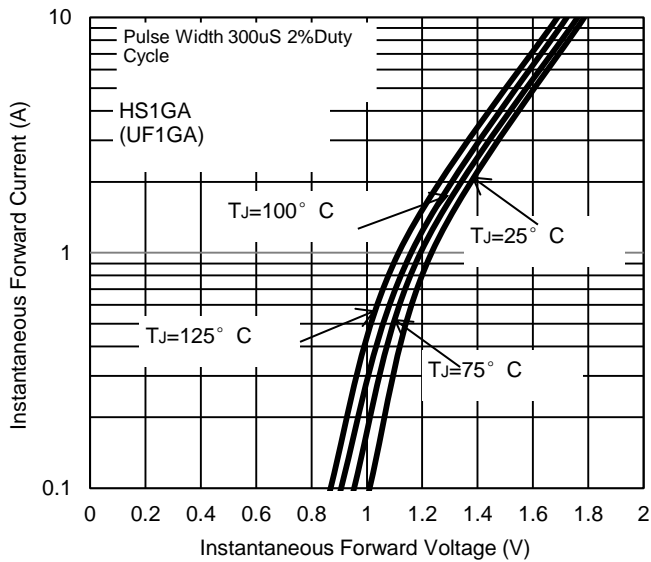
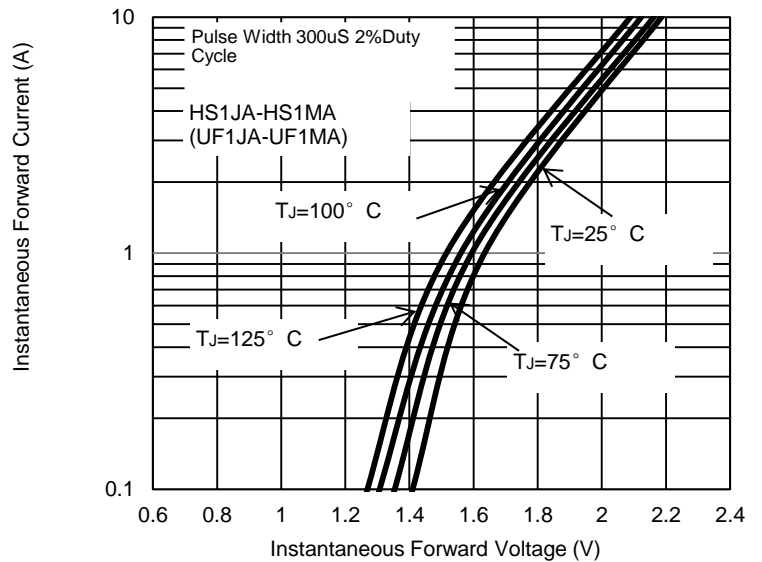


Fig. 6 - Typical Forward Characteristics



The curve above is for reference only.

HS1*A/UF1*A-13-00-00/01

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