

Features

- ◇ Glass passivated junction chip
- ◇ For surface mounted application
- ◇ Low profile package
- ◇ Built-in strain relief
- ◇ Ideal for automated placement
- ◇ Easy pick and place
- ◇ Ultrafast recovery time for high efficiency
- ◇ Low forward voltage, low power loss
- ◇ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

Mechanical Data

- ◇ Case: Molded plastic
- ◇ Epoxy: UL 94V-0 rated flame retardant
- ◇ Polarity: Indicated by cathode band
- ◇ High temperature soldering guaranteed:
260°C/10 seconds/.375", (9.5mm) lead
Lengths at 5 lbs., (2.3kg) tension
- ◇ Mounting position: ANY
- ◇ Weight: 0.206 gram

Marking Information



LGE: Lu Guang Electronic
XXXX: marking code (US8A-US8M)

Maximum Ratings and Electrical Characteristics

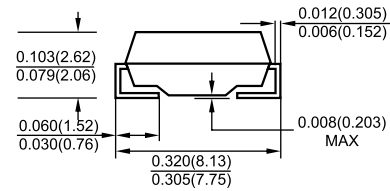
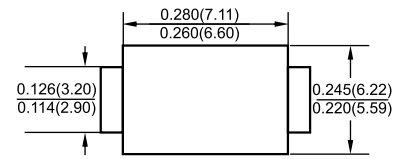
Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number	Symbol	US8A	US8B	US8D	US8G	US8J	US8K	US8M	Units	
Maximum Recurrent 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 .375(9.5mm) Lead Length @TA=110°C	I _{F(AV)}	8.0							A	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load(JEDEC method)	I _{FSM}	300							A	
I ² t Rating for Fusing (t < 8.3ms)	I ² T	373.5							A ² s	
Maximum Instantaneous Forward Voltage @1.0A	V _F	1.0		1.3		1.7			V	
Maximum DC Reverse current @T _A =25°C at Rated DC Blocking Voltage @ T _A =125°C	I _R	F≤0 300							μA	
Maximum Reverse Recovery Time (I _F =0.5A, I _R =1.0A, I _{RR} =0.25A)	T _{rr}	50				75				nS
Typical junction capacitance: VR=4.0v, f=1MHz	C _J	15				10				pF
Maximum thermal resistance	R _{θJA}	55							°C/W	
(PCB mounted on 0.2x0.2"(5.0x5.0mm)copper pad area)	R _{θJL}	15							°C/W	
Operating temperature range	T _J	-55 to +150							°C	
Storage temperature range	T _{STG}	-55 to +150							°C	

SMC(DO-214AB)



Dimensions in inches and (millimeters)

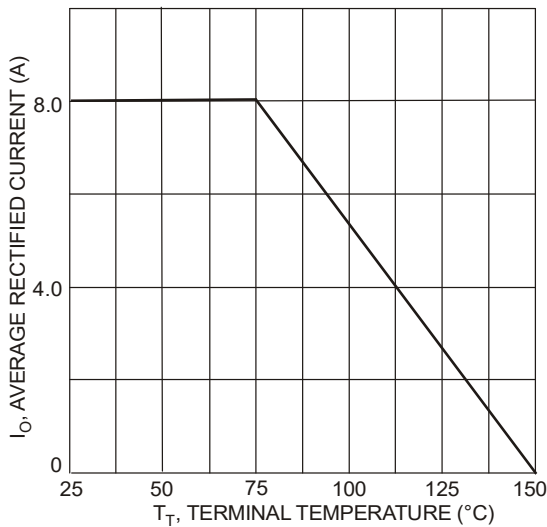


Fig. 1 Forward Current Derating Curve

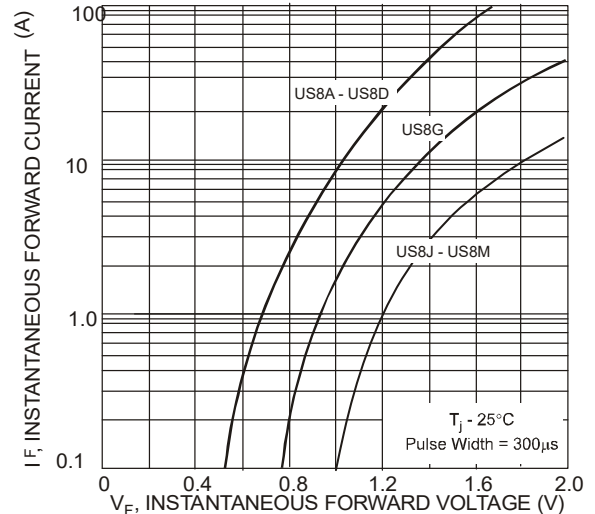


Fig. 2 Typical Forward Characteristics

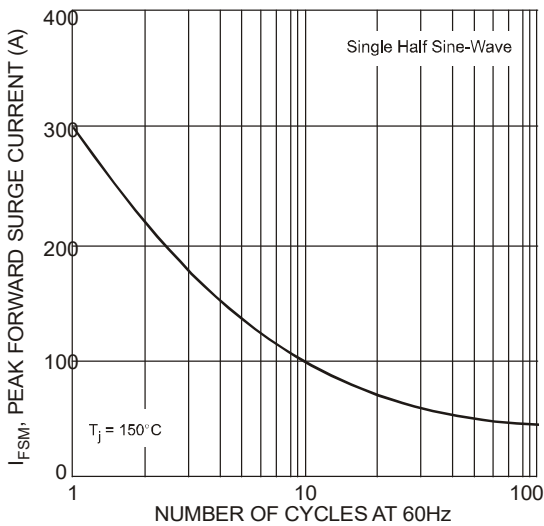


Fig. 3 Forward Surge Current Derating Curve

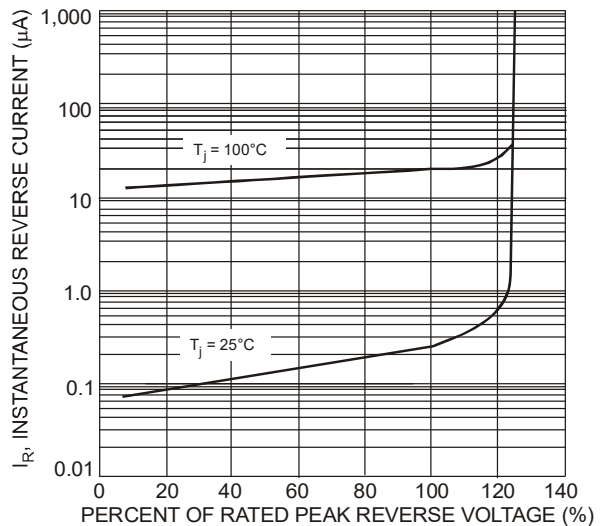
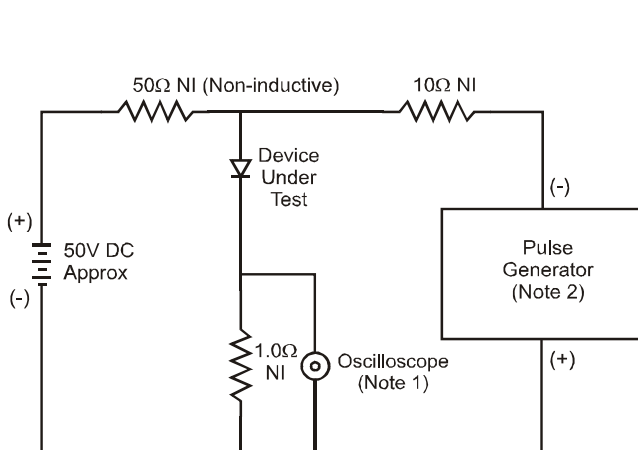


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON S IZE/CM	CARTON GW/KW	CARTON NW/KG
SMC	3000/REEL	48000	30×30.6×31	12.00	11.00

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