

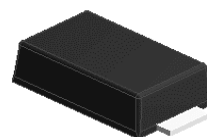
1A,50-1000V Superfast Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



RoHS
COMPLIANT



iSGA (SOD-123HS)

Applications

For use in secondary rectification and freewheeling for superfast switching speeds of converters in consumer applications.

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)								
Parameter	Symbol	PU1	PU2	PU3	PU4	PU5	Unit	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	V	
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	V	
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	V	
Maximum average forward rectified current	I _{F(AV)}	1						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30						A
Operating junction temperature range	T _J	-55 to +150						°C
Storage temperature range	T _{STG}	-55 to +150						°C

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	63	°C / W
Thermal Resistance, Junction to Case	R _{θJC}	39	°C / W
Thermal Resistance, Junction to Lead	R _{θJL}	9	°C / W

Electrical Specifications (T _A =25°C unless otherwise noted)								
Parameter	Symbol	Test Conditions	PU1	PU2	PU3	PU4	PU5	Unit
Forward Drop Voltage	V _F	I _F =1A	0.95			1.30	1.70	V
Reverse leakage current @V _R	I _R	T _J =25°C	5					uA
		T _J =125°C	100					
Typical junction capacitance	C _J	4.0 V 1 MHz	7					pF
Maximum reverse recovery time	trr	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	35					nS

Note:

1. The thermal resistance from junction to ambient or lead, mounted on copper pad area of 5.0 x 5.0mm to each terminal.
2. The thermal resistance from junction to case, mounted on recommended copper pad to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

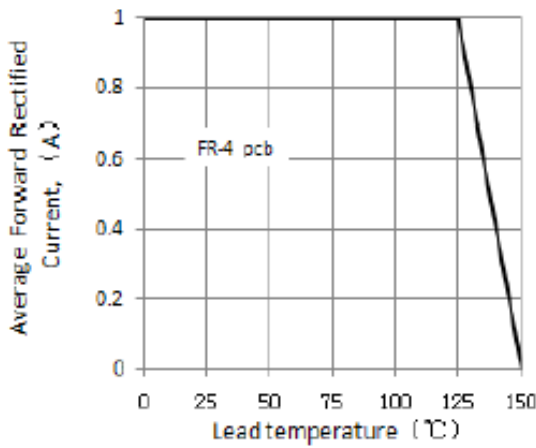


Figure 1. Forward Current Derating Curve

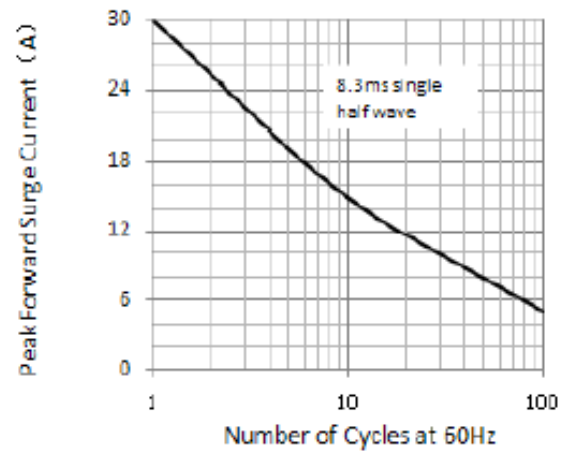


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

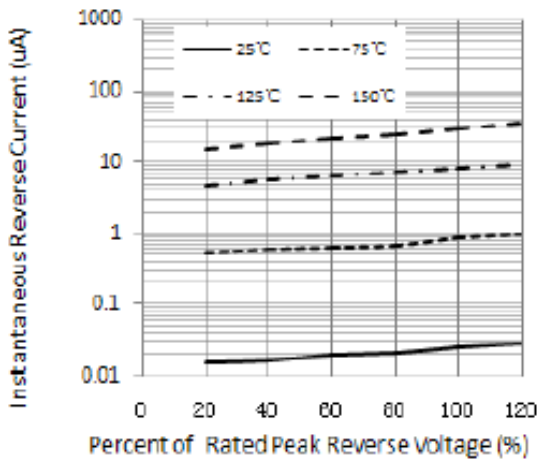


Figure 3. Typical Reverse Characteristics

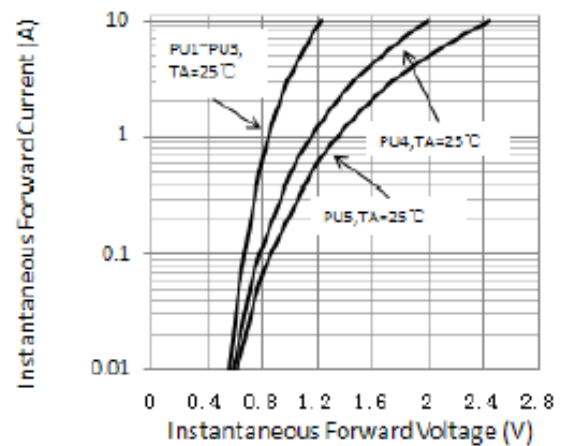


Figure 4. Typical Instantaneous Forward Characteristics

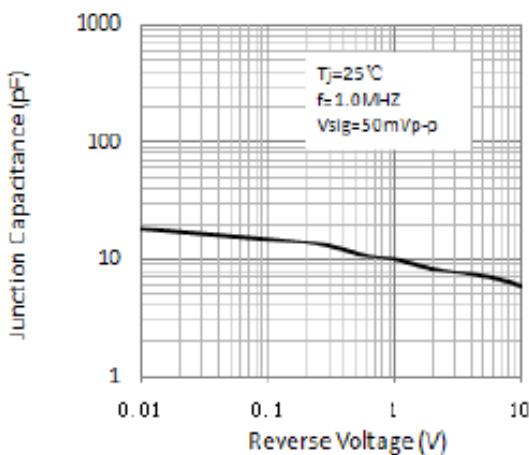


Figure 5. Typical Junction Capacitance

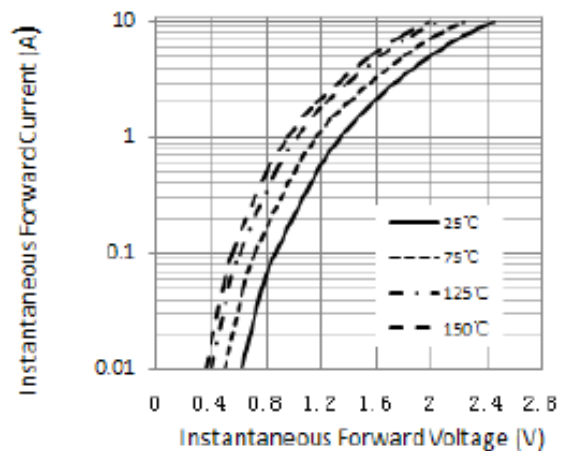
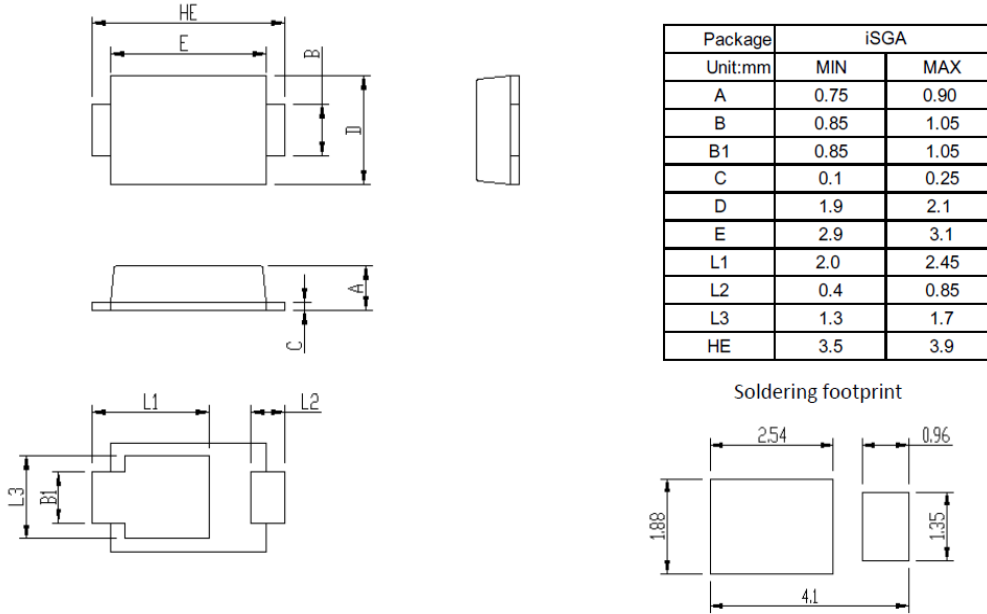


Figure 6. Typical Instantaneous Forward Characteristics (PU5)

Package Outline Dimensions

in inches (millimeters)

iSGA (SOD-123HS)



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.17	Modify document format

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