

1A,50-1400V High Efficient 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



SMA(DO-214AC)

Applications

For use of fast switching rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	HS1A	HS1B	HS1D	HS1F	HS1G	HS1J	HS1K	HS1M	HS1O	HS1R	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	300	400	600	800	1000	1200	1400	V
Maximum RMS voltage	V _{RMS}	35	70	140	210	280	420	560	700	840	980	V
Maximum DC blocking voltage	V _{DC}	50	100	200	300	400	600	800	1000	1200	1400	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}	90	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	20	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	25	°C /W



Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	HS1A	HS1B	HS1D	HS1F	HS1G	HS1J	HS1K	HS1M	HS1O	HS1R	Unit
Forward Drop Voltage	V _F	I _F =1A	1.0				1.3	1.7			1.9		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	6.5										pF
Maximum reverse recovery time	trr	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	50					75					nS

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

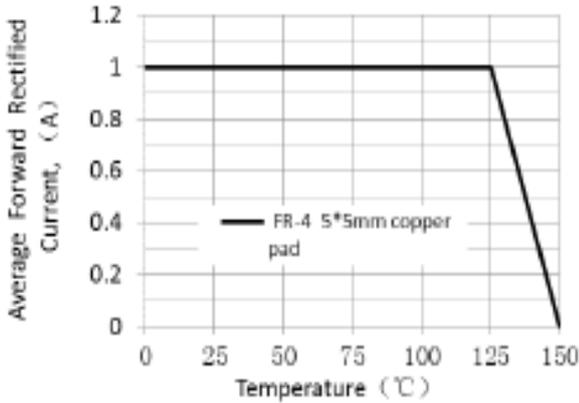


Figure 1. Forward Current Derating Curve

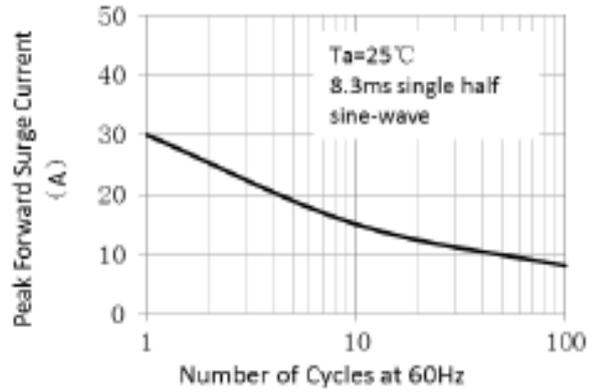


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

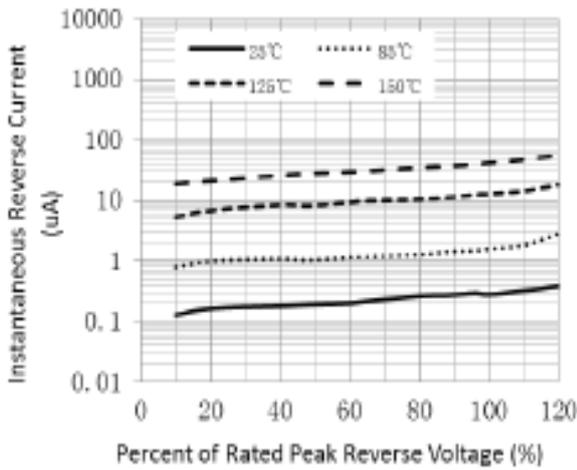


Figure 3. Typical Reverse Characteristics

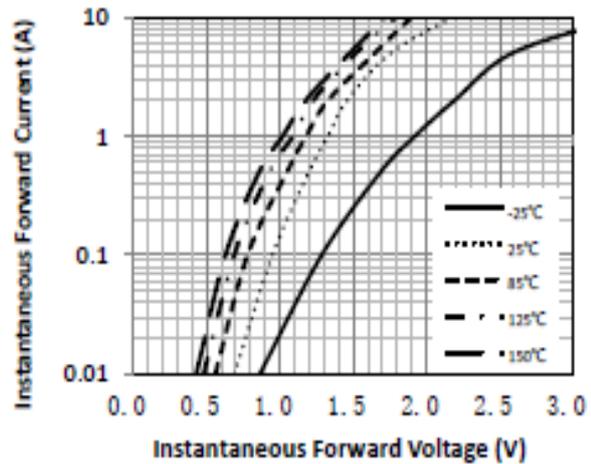


Figure 4. Typical Instantaneous Forward Characteristics

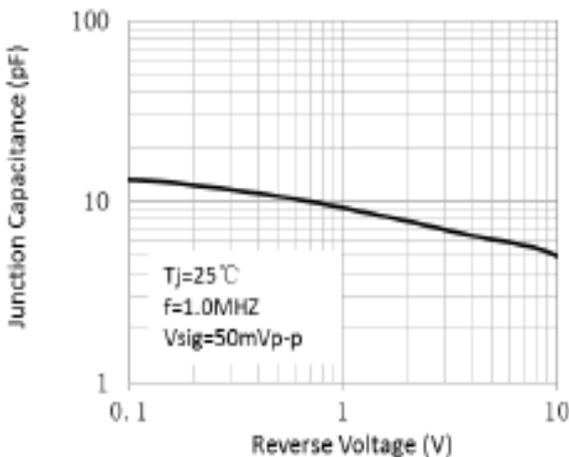
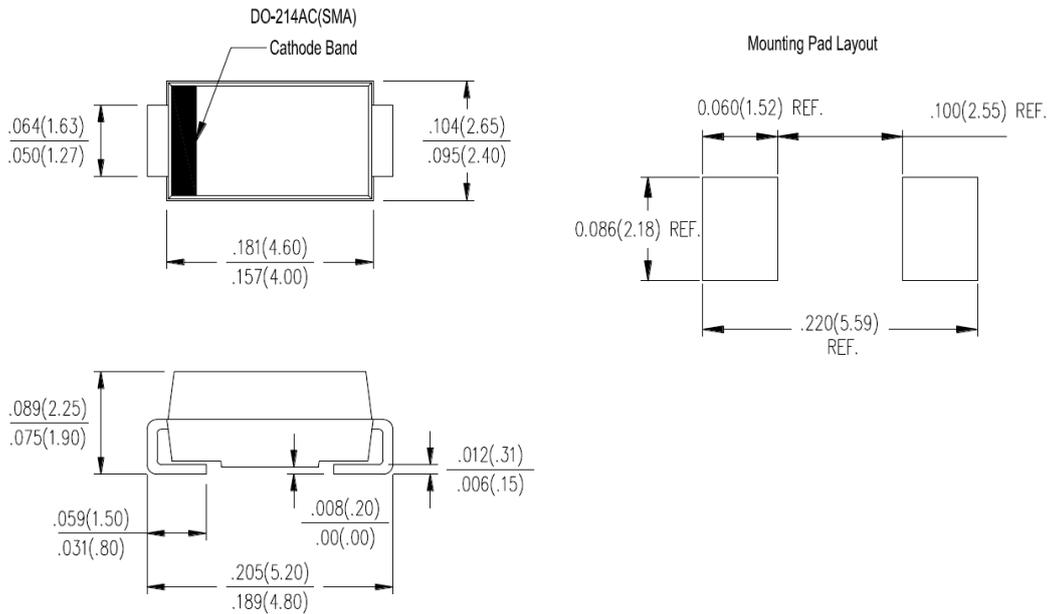


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

in inches (millimeters)

SMA (DO-214AC)



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.19	Modify document format

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