

3A,50-1000V 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
- AEC-Q101 qualified



RoHS
COMPLIANT



SMC (DO-214AB)

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	AHS3A	AHS3B	AHS3D	AHS3G	AHS3J	AHS3K	AHS3M	Unit
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	I _{F(AV)}	3							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	125							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}	65	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	10	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	15	°C /W

Electrical Specifications (T _A =25°C unless otherwise noted)											
Parameter	Symbol	Test Conditions	AHS3A	AHS3B	AHS3D	AHS3G	AHS3J	AHS3K	AHS3M	Unit	
Forward Drop Voltage	V _F	I _F =3A T _A =25°C	1.0			1.3	1.7			V	
		I _F =3A T _A =125°C	1.15								
Reverse leakage current @V _R	I _R	T _J =25°C	5								uA
		T _J =125°C	50								
Typical junction capacitance	C _J	4.0 V 1 MHz	27.3								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 8.0 x 8.0mm to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

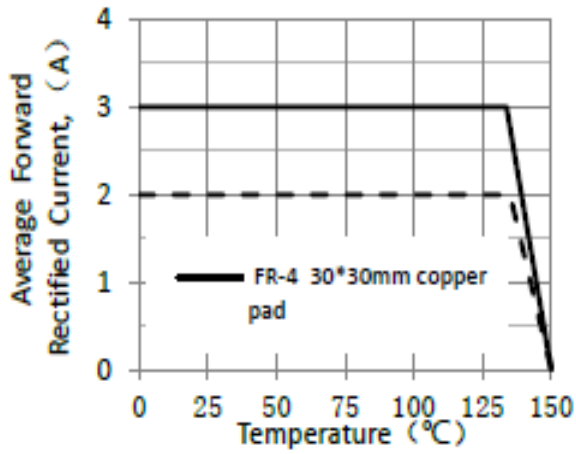


Figure 1. Forward Current Derating Curve

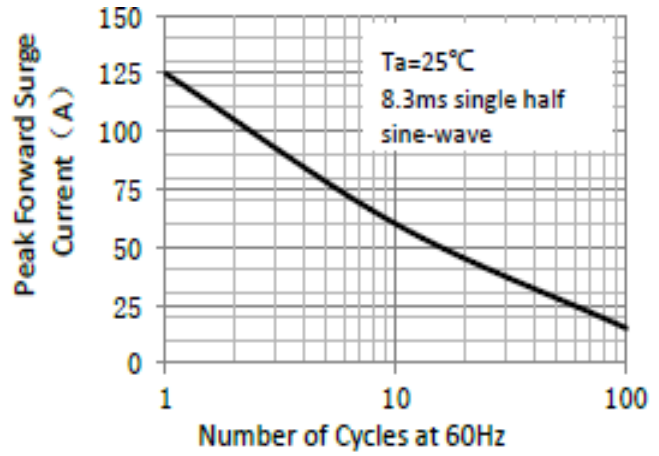


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

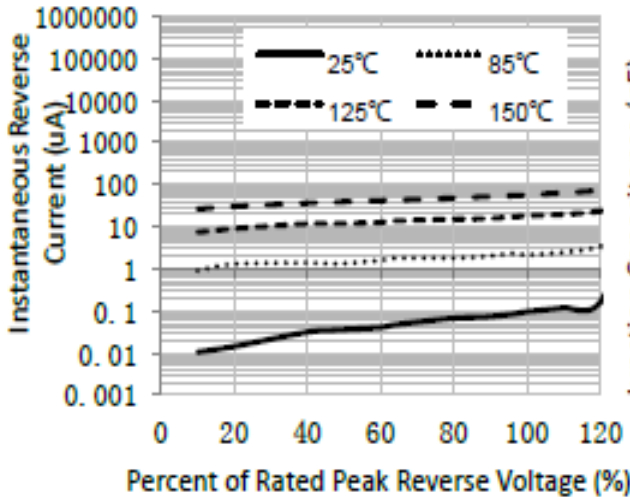


Figure 3. Typical Reverse Characteristics

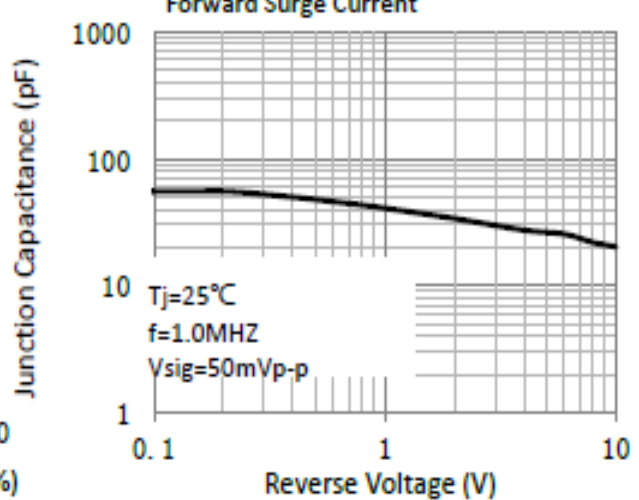


Figure 4. Typical Junction Capacitance

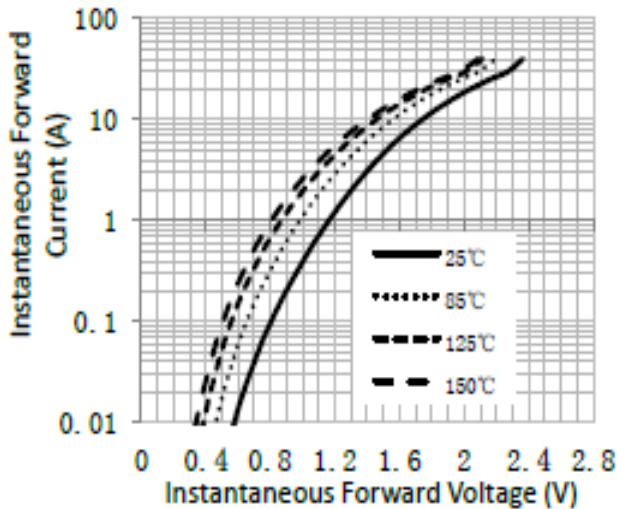
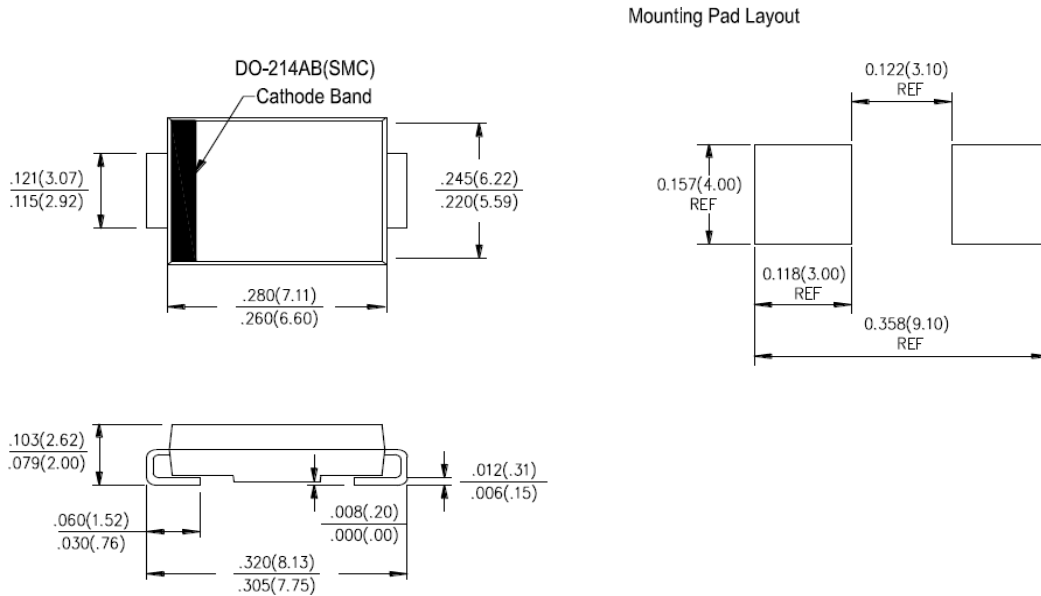


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

in inches (millimeters)

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Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.24	Modify document format

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