

4A,200 - 600V Ultrafast 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



SMC (DO-214AB)

Applications

For use of general purpose 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	MURS420	MURS440	MURS460	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	V
Maximum RMS voltage	V _{RMS}	140	280	420	V
Maximum DC blocking voltage	V _{DC}	200	400	600	V
Maximum average forward rectified current	I _{F(AV)}	4			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 +175			°C
Storage temperature range	T _{STG}	-55 to +175			°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	MURS420	MURS440	MURS460	Unit
Maximum forward drop voltage	V _F	I _F =4A	0.89	1.28		V
Maximum reverse leakage current @V _R	I _R	T _J =25°C	5	10		uA
		T _J =150°C	150	250		
Typical junction capacitance	C _J	4.0 V 1 MHz	70			pF
Maximum reverse recovery time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	25	50		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)

Fig. 1 – Forward Current Derating Curve

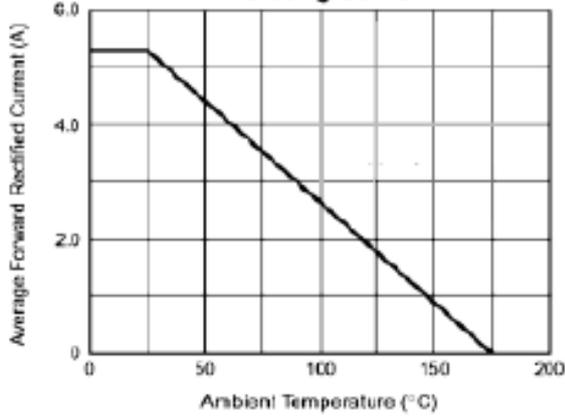


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

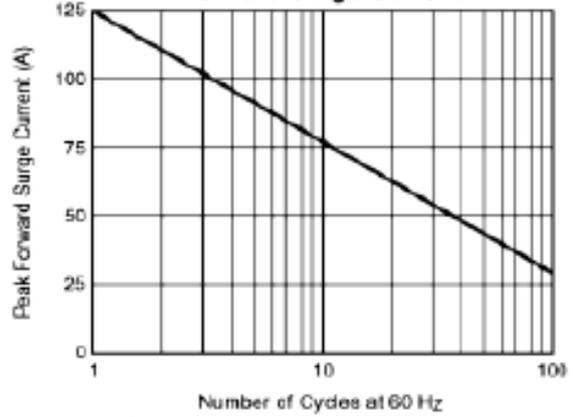


Fig. 3 – MURS460 Typical Instantaneous Forward Characteristics

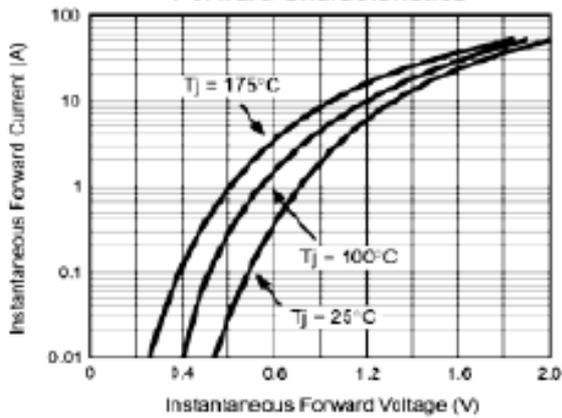


Fig. 4 – MURS460 Typical Reverse Characteristics

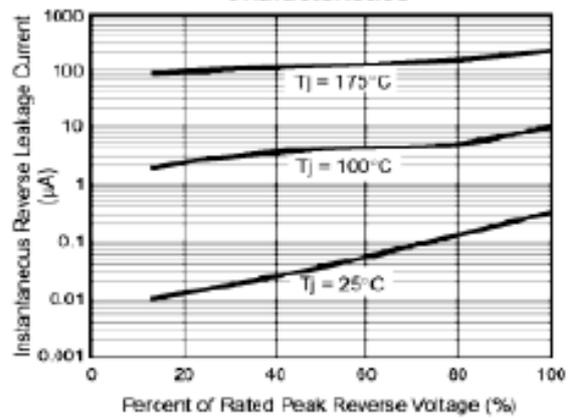
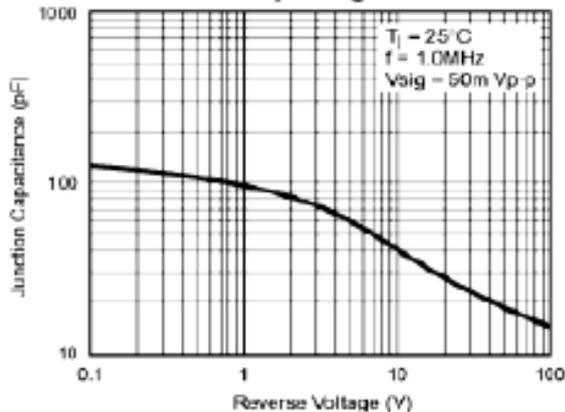


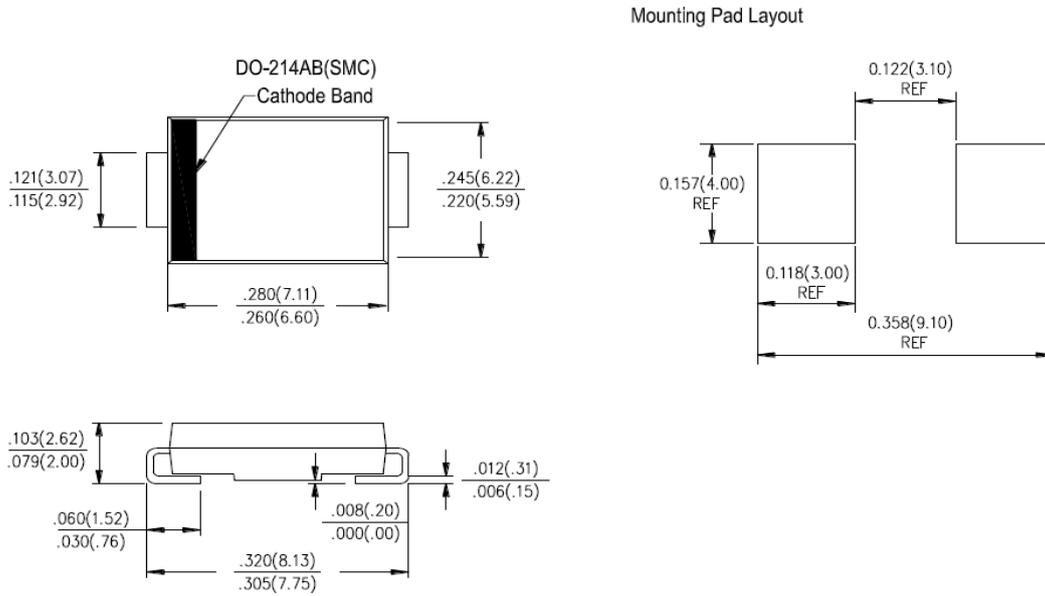
Fig. 5 – Typical Junction Capacitance per Leg



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	2023.10.20	Modify document format

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