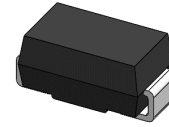


## 1A,200V Ultrafast Rectifier

### 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 general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	MURS120A	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	V
Maximum RMS voltage	V <sub>RMS</sub>	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	40	A
Operating junction temperature range	T <sub>J</sub>	-55 to +175	°C
Storage temperature range	T <sub>STG</sub>	-55 to +175	°C

Thermal-Mechanical Specifications (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	90	°C / W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	20	°C / W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	25	°C / W

## Electrical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	MURS120A	Unit
Maximum forward drop voltage	V <sub>F</sub>	I <sub>F</sub> =1A T <sub>A</sub> =25°C	0.875	V
Maximum reverse leakage current @V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C	2	uA
		T <sub>J</sub> =150°C	50	
Typical junction capacitance	C <sub>J</sub>	4.0V 1 MHz	13	pF
Maximum reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A	50	nS

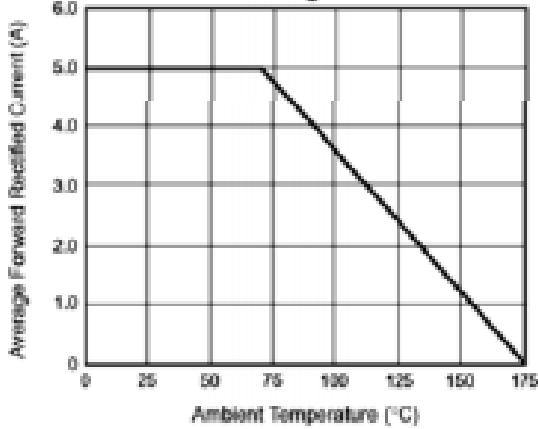
Note:

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

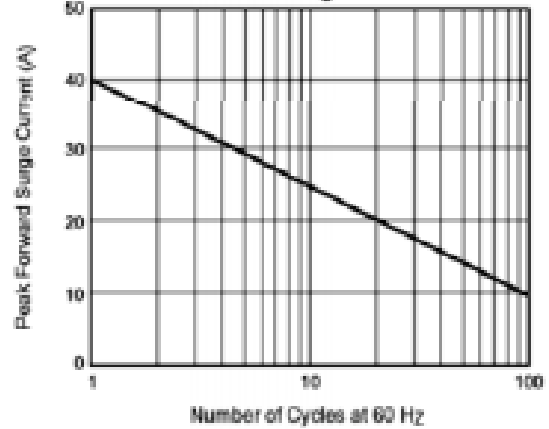
## Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

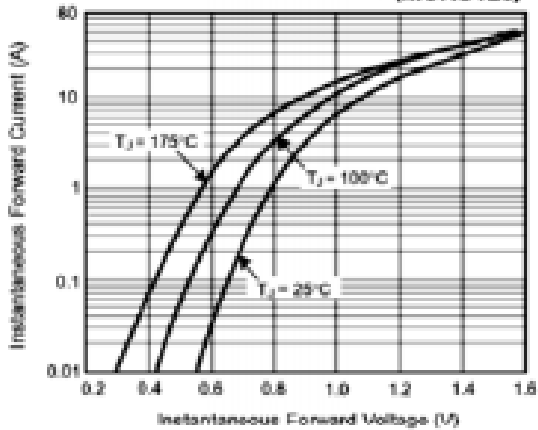
**Fig. 1 – Forward Current Derating Curve**



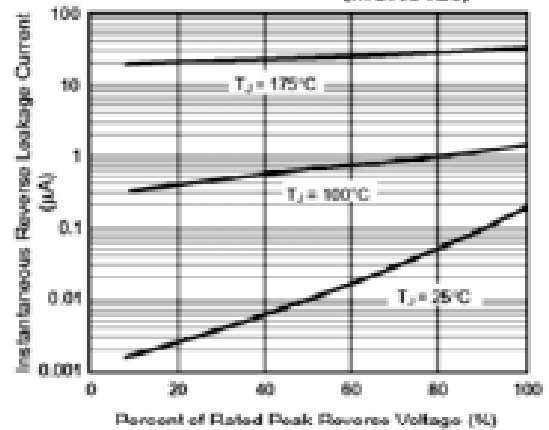
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



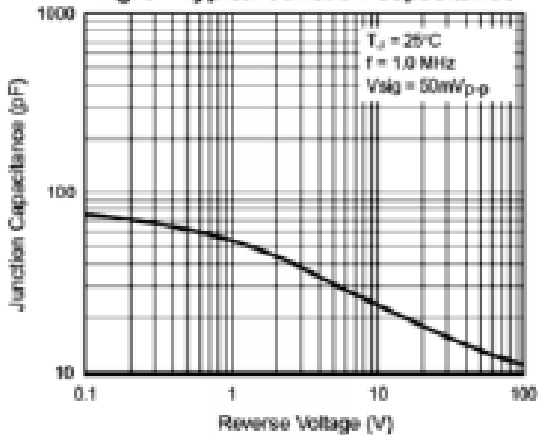
**Fig. 3 – Typical Instantaneous Forward Characteristics (MURS120)**



**Fig. 4 – Typical Reverse Leakage Characteristics (MURS120)**



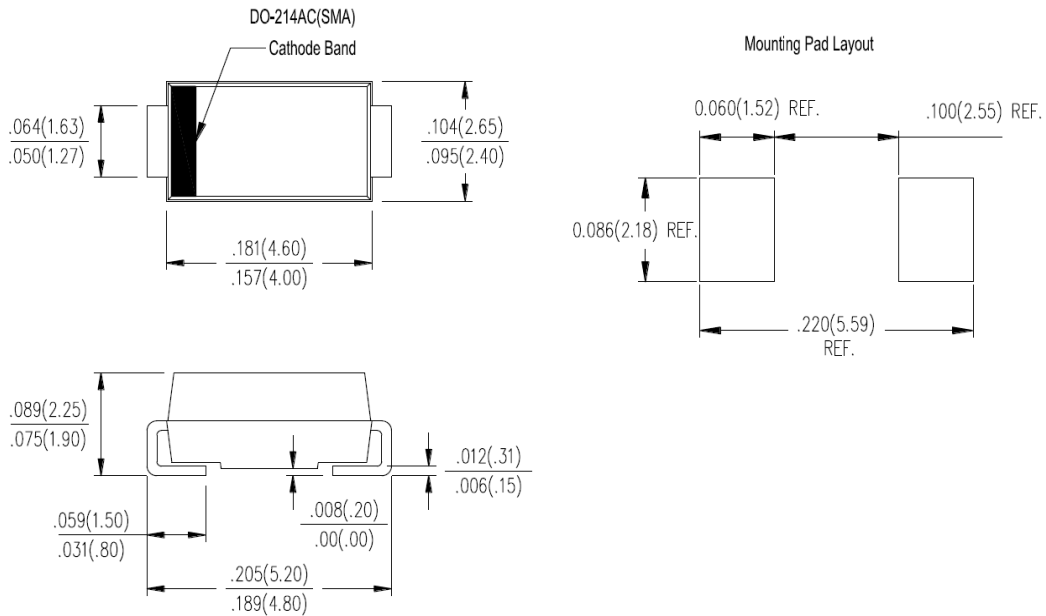
**Fig. 5 – Typical Junction Capacitance**



## 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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