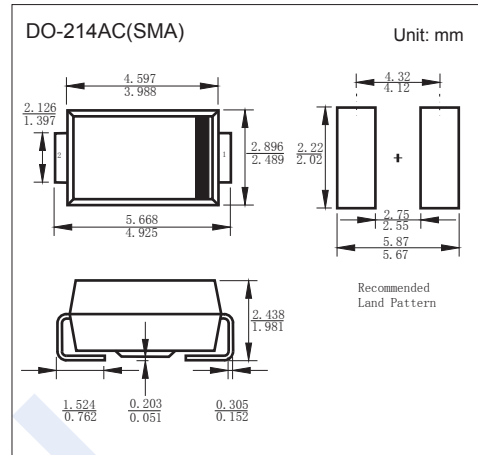


## Rectifier Diodes

## MURS120

## ■ Features

- Glass Passivated Die Construction
  - Super-Fast Recovery Time For High Efficiency
  - Low Forward Voltage Drop and High Current Capability
  - Surge Overload Rating to 40A Peak
  - Ideally Suited for Automated Assembly
  - Plastic Material: UL Flammability
- Classification Rating 94V-0

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	200	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	141	
Average Rectified Output Current	$I_o$	$T_T=155^\circ\text{C}$	1
		$T_T=145^\circ\text{C}$	2
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	40	A
Forward Voltage	$V_F$	@ $I_F=1\text{A}, T_J=25^\circ\text{C}$	0.875
		@ $I_F=1\text{A}, T_J=150^\circ\text{C}$	0.71
Peak Reverse Current at Rated DC Blocking Voltage	$I_R$	@ $T_a=25^\circ\text{C}$	2
		@ $T_a=150^\circ\text{C}$	50
Reverse Recovery Time (Note.1)	trr	25	ns
Forward Recovery Time (Note.2)		25	
Typical Junction Capacitance (Note.3)	$C_J$	60	pF
Thermal Resistance Junction to Terminal	$R_{\theta JT}$	13	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-65 to 175	

Note.1: Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ . See Figure 5.

Note.2: Measured with  $I_F = 1.0\text{A}$ ,  $di/dt = 100\text{A}/\mu\text{s}$ , Duty Cycle  $\leq 2\%$

Note.3: Measured at 1.0MHz and applied reverse voltage of 0V DC.

# Rectifier Diodes

## MURS120

### Typical Characteristics

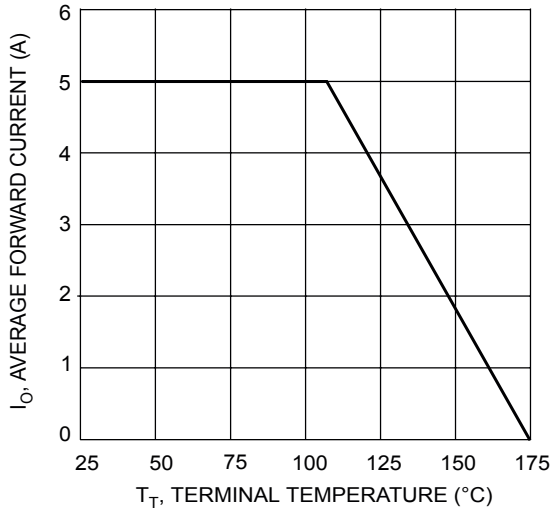


Fig. 1 Forward Current Derating Curve

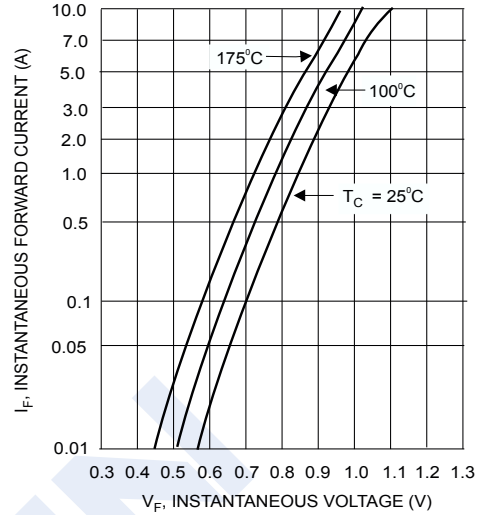


Fig. 2 Typical Forward Current

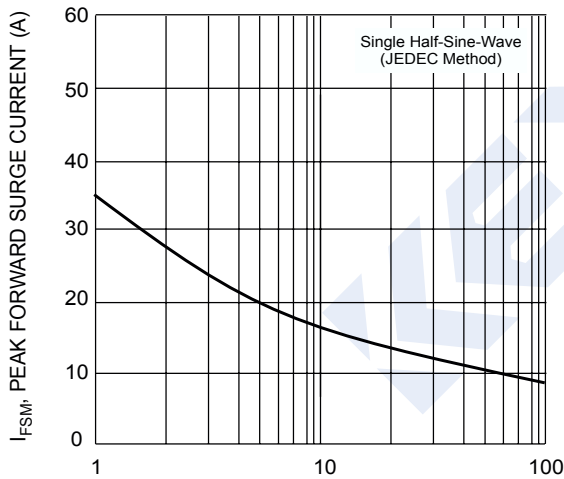


Fig. 3 Surge Current Derating Curve

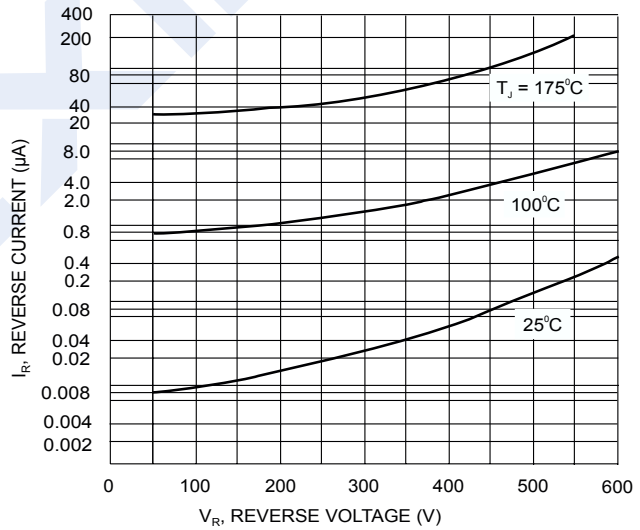
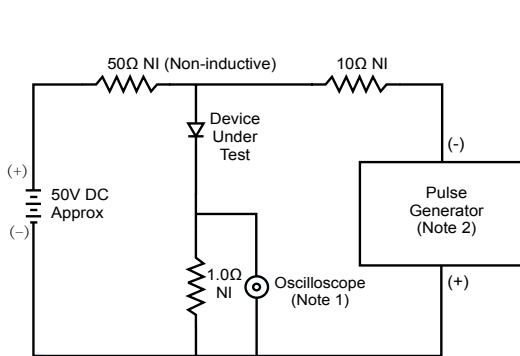
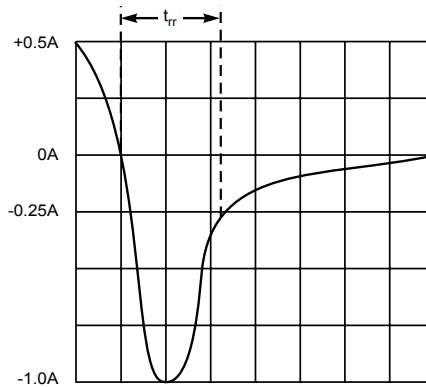


Fig. 4 Typical Reverse Current



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit