



# MURS140 and MURS160

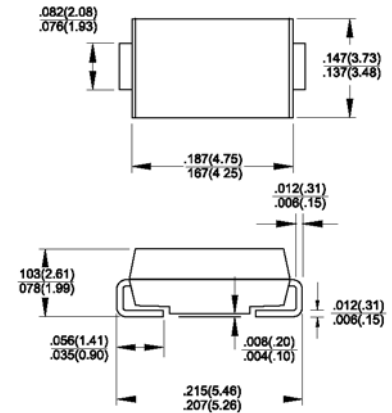
Ultrafast Plastic Rectifiers  
Reverse Voltage 400 to 600 Volts Forward Current 1.0 Ampere

## Features

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- ◆ Ultrafast recovery time for high efficiency
- ◆ For surface mount applications
- ◆ Glass passivated junction
- ◆ High temperature soldering guaranteed:  
250°C/10Seconds on terminals



DO-214AA (SMB)



## Mechanical Data

- ◆ Case: JEDEC DO-214AA (SMB) molded plastic body
- ◆ Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: 0.003 ounce, 0.093 gram

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

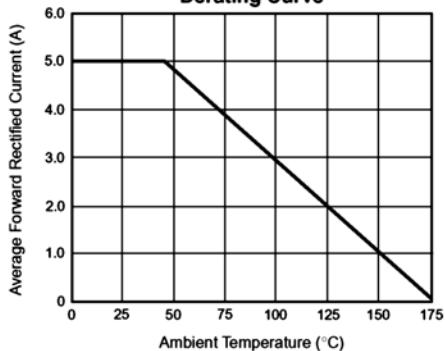
Parameter	Symbols	MURS140	MURS160	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	Volts
Working peak reverse voltage	$V_{RWM}$	400	600	Volts
Maximum DC blocking voltage	$V_{DC}$	400	600	Volts
Maximum average forward rectified current at See figure 1	$I_{F(AV)}$		1.0 2.0	Amp
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$		35.0	Amps
Maximum instantaneous forward voltage (Note 1)	$V_F$		1.25 1.05	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	$I_R$		5.0 150	$\mu A$ $\mu A$
Maximum reverse recovery time at $I_F=0.5A$ , $I_R=1.0A$ , $I_m=0.25A$	$t_{rr}$		50	nS
Maximum reverse recovery time at $I_F=1.0A$ , $di/dt=50A/\mu s$ , $V_R=30V$ , $I_m=10\% I_{FSM}$	$t_{rr}$		75	nS
Maximum forward recovery time at $I_F=1.0A$ , $di/dt=100A/\mu s$ , recovery to 1.0V	$t_{rf}$		50	nS
Typical thermal resistance junction to ambient	$R_{\theta JA}$		13	°C/W
Operating junction and storage temperature range	$T_J$ , $T_{STG}$		-55 to +175	°C

Notes: 1. Pulse test:  $t_p=300\mu s$ , duty cycle < 2%

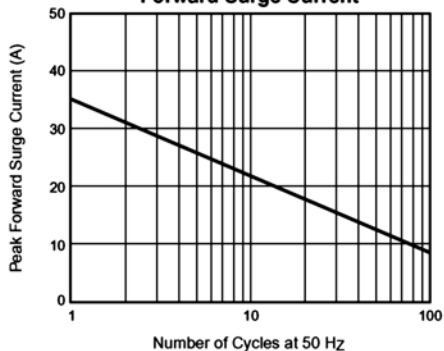
# RATINGS AND CHARACTERISTIC CURVES

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

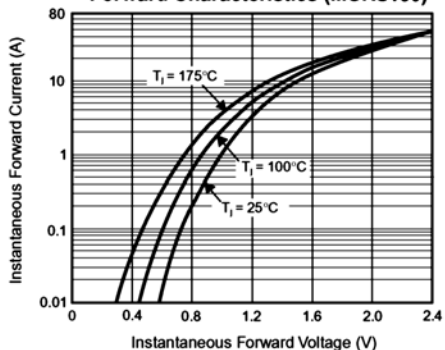
**Fig. 1 – Forward Current Derating Curve**



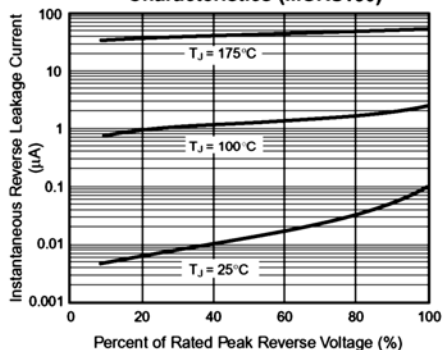
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics (MURS160)**



**Fig. 4 – Typical Reverse Leakage Characteristics (MURS160)**



**Fig. 5 – Typical Junction Capacitance**

