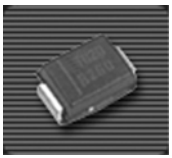
MURS140 and MURS160

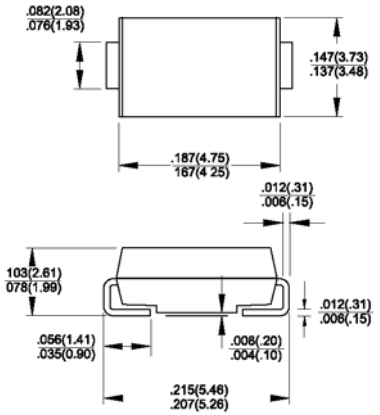
Ultrafast Plastic Rectifiers
Reverse Voltage 400 to 600 Volts Forward Current 1.0 Ampere

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)



Dimensions in inches and (millimeters)

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 T_L=150°C See figure 1 T_L=125°C	$I_{F(AV)}$	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 at I_F=1.0A, T_J=25°C forward voltage (Note 1) at I_F=1.0A, T_J=150°C	V_F	1.25 1.05		Volts
Maximum instantaneous reverse current T_J=25°C at rated DC blocking voltage (Note 1) T_J=150°C	I_R	5.0 150		uA uA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	50		nS
Maximum reverse recovery time at I_F=1.0A, di/dt=50A/us, V_R=30V, I_{rr}=10% I_{RM}	t_{rr}	75		nS
Maximum forward recovery time at I_F=1.0A, di/dt=100A/us, recovery to 1.0V	t_{fr}	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=300us, duty cycle < 2%

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

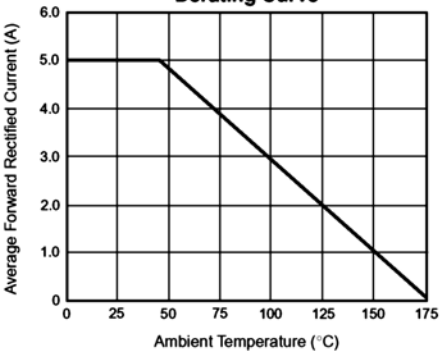


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

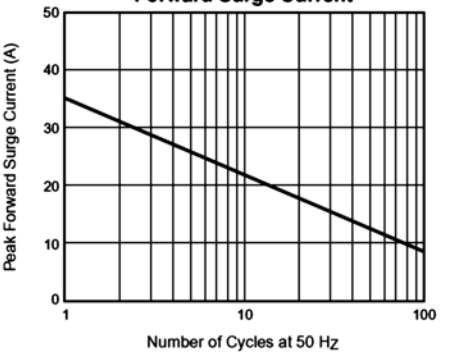


Fig. 3 – Typical Instantaneous Forward Characteristics (MURS160)

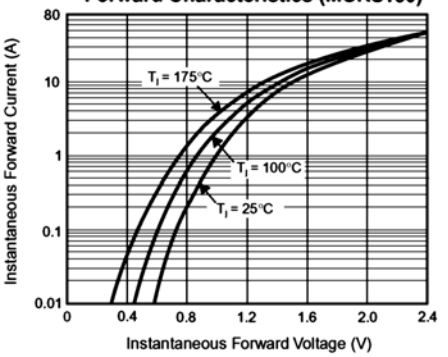


Fig. 4 – Typical Reverse Leakage Characteristics (MURS160)

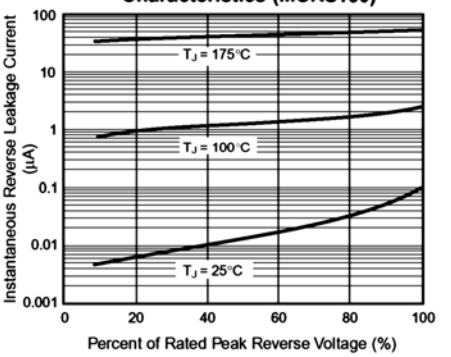


Fig. 5 – Typical Junction Capacitance

