

MURS140 and MURS160

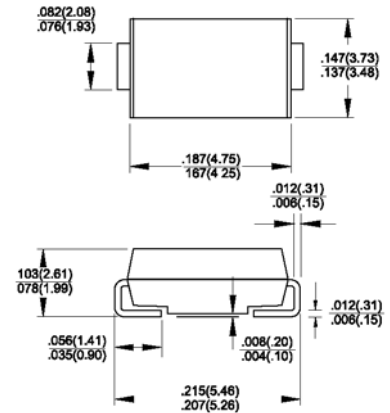
Ultrafast Plastic Rectifiers
Reverse Voltage 400 to 600 Volts Forward Current 1.0 Ampere

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	μ A μ 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

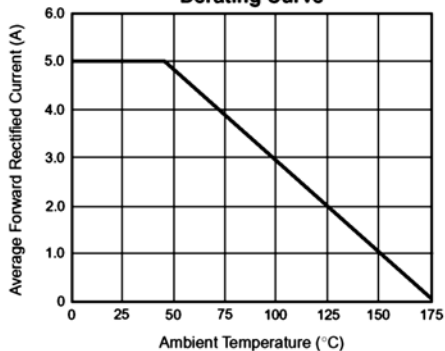


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

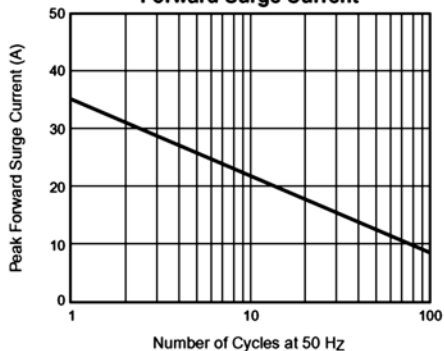


Fig. 3 – Typical Instantaneous Forward Characteristics (MURS160)

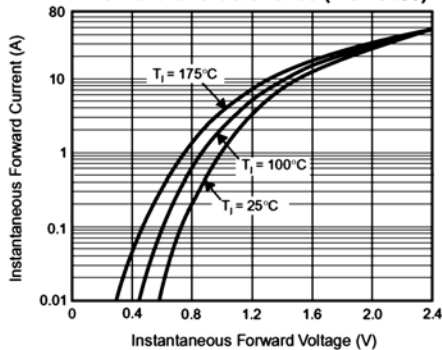


Fig. 4 – Typical Reverse Leakage Characteristics (MURS160)

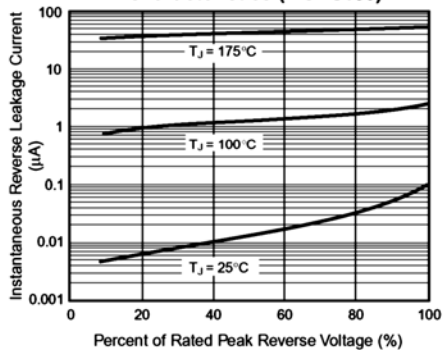


Fig. 5 – Typical Junction Capacitance

