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MURS140 and MURS160

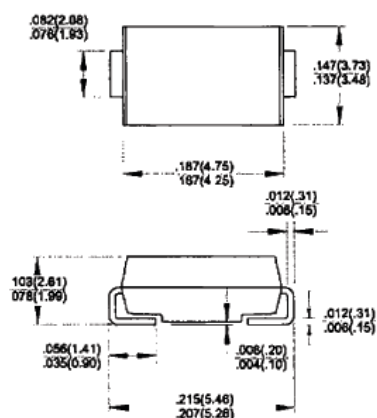
Ultrafast Plastic Rectifiers
Reverse Voltage 400 to 600 Volts Forward Current 1.0 Ampere

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 $T_L=150^\circ\text{C}$ 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) at $I_F=1.0\text{A}$, $T_J=25^\circ\text{C}$ at $I_F=1.0\text{A}$, $T_J=150^\circ\text{C}$	V_F		1.25 1.05	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	I_R		5.0 200	μA μA
Maximum reverse recovery time at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$	t_r		50	nS
Maximum reverse recovery time at $I_F=1.0\text{A}$, $dI/dt=50\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_R=10\% I_{RM}$	t_n		75	nS
Maximum forward recovery time at $I_F=1.0\text{A}$, $dI/dt=100\text{A}/\mu\text{s}$, recovery to 1.0V	t_i		50	nS
Typical thermal resistance junction to ambient	R_{JA}		13	$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_J , T_{STG}		-55 to +175	$^\circ\text{C}$

Notes: 1. Pulse test: $t_p=300\mu\text{s}$, duty cycle $\leq 2\%$



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RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 – Forward Current Derating Curve

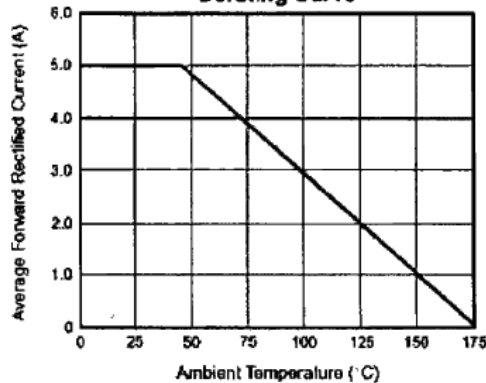


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

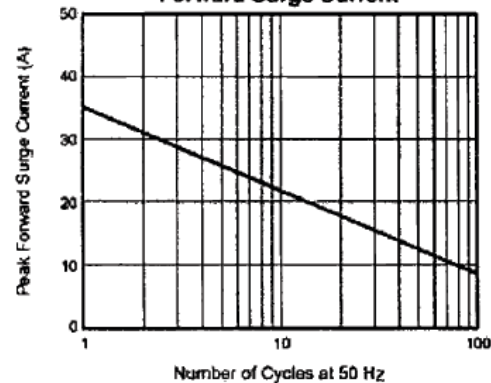


Fig. 3 – Typical Instantaneous Forward Characteristics (MURS160)

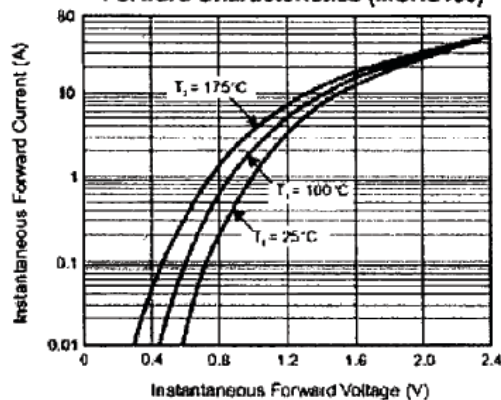


Fig. 4 – Typical Reverse Leakage Characteristics (MURS160)

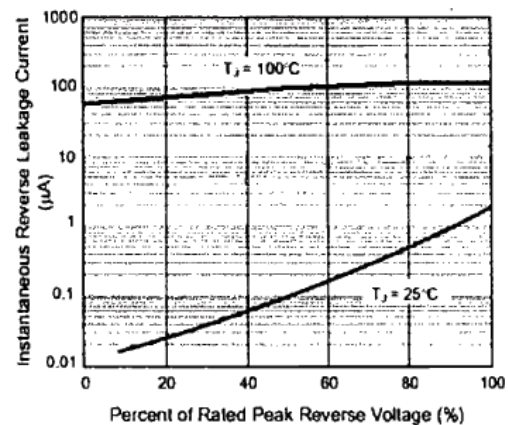


Fig. 5 – Typical Junction Capacitance

