



THE DATASHEET OF MURS140



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: 260°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

Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	MURS140	MURS160	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	400	600	V
Working Peak Reverse Voltage	V _{RWM}	400	600	V
Maximum DC Blocking Voltage	V _{DC}	400	600	V
Maximum Average Forward Rectified Current at TL (See Fig.1)	I _{F(AV)}	T _L =150°C		A
		T _L =125°C		
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load	I _{FSM}	35		A
Operating Junction Temperature Range	T _J	- 55 to + 150		°C
Storage Temperature Range	T _{STG}	- 55 to + 150		°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	MURS140	MURS160	Unit
Maximum Instantaneous Forward Voltage	V _F	I _F =1.0A, T _J =25°C	1.25		Volts
		I _F =1.0A, T _J =150°C	1.05		
Maximum DC reverse Current at Rated DC Blocking Voltage	I _R	T _A =25°C	5.0		µA
		T _A =125°C	50		
Typical Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	50		nS
		I _F =1.0A, di/dt=50A/µS, V _R =30V, I _{rr} =10%I _{RM}	75		nS
		I _F =1.0A, di/dt=100A/µS, Recovery to 1.0V	50		nS
Typical Thermal Resistance ¹	R _{θJA}	Junction to Ambient	85		°C/W
	R _{θJC}	Junction to Case	15		
	R _{θJL}	Junction to Lead	20		

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 8.0×8.0mm copper pads.

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

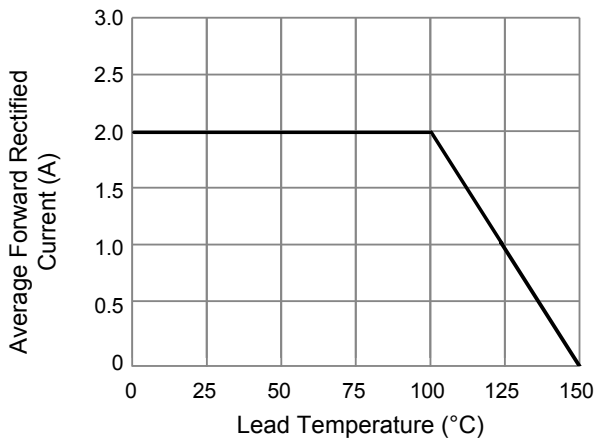


Figure 1. Forward Current Derating Curve

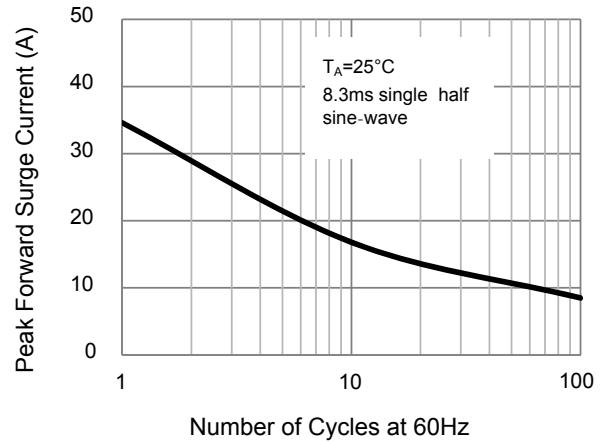


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

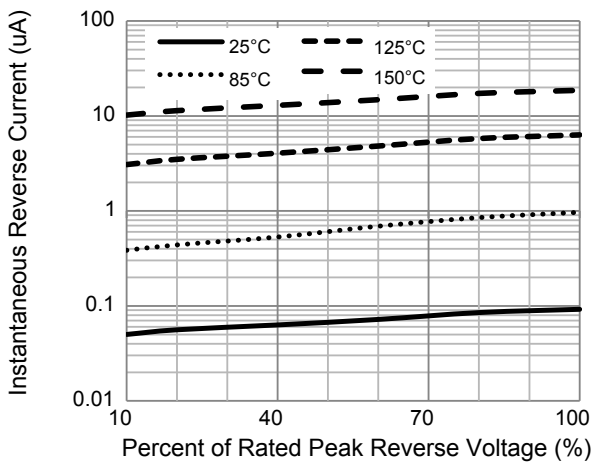


Figure 3. Typical Reverse Characteristics

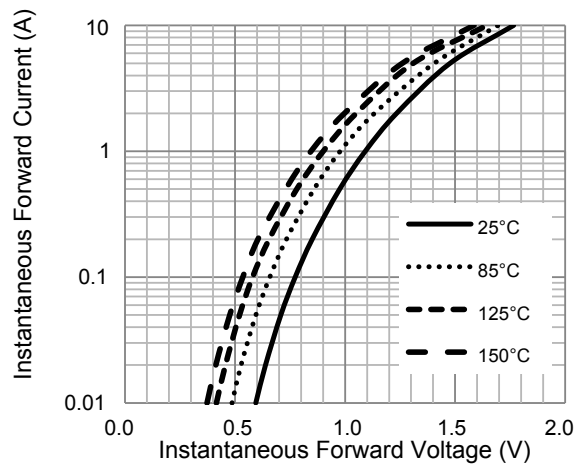


Figure 4. Typical Forward Characteristics

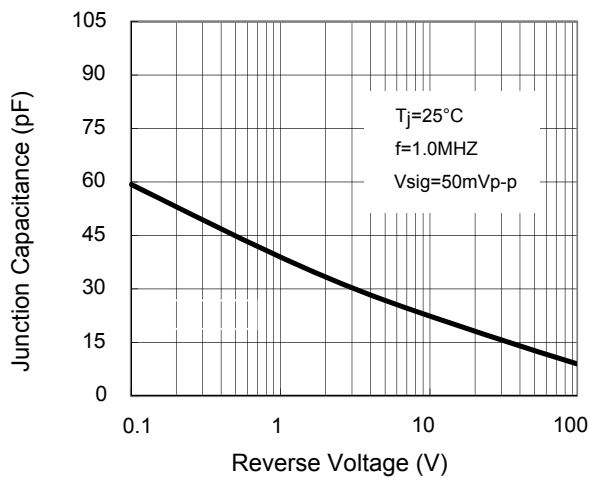
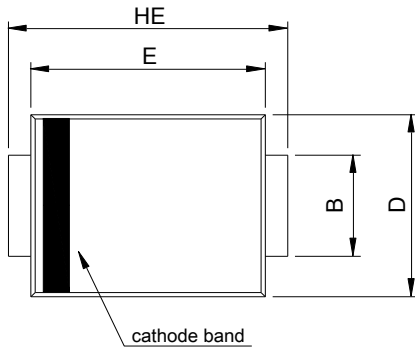


Figure 5. Typical Junction Capacitance

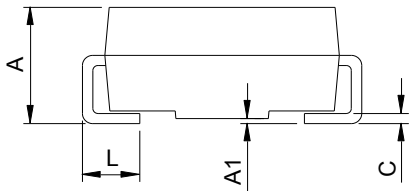
MURS140 thru MURS160

Surface Mount Glass Passivated Ultrafast Rectifiers
 Reverse Voltage 400 to 600V Forward Current 1.0A

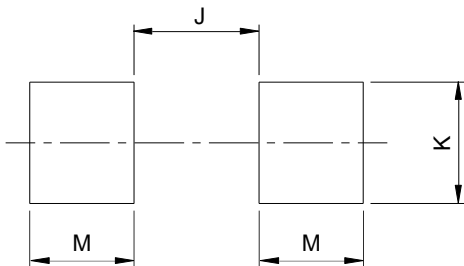
Package Outline Dimensions (SMB)



SMB (DO-214AA)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.95	2.65	0.077	0.104
A1	0.00	0.20	0.000	0.008
B	1.95	2.20	0.077	0.087
C	0.15	0.31	0.006	0.012
D	3.30	3.95	0.130	0.156
E	4.06	4.60	0.160	0.181
HE	5.10	5.60	0.201	0.220
L	0.76	1.60	0.030	0.063





Recommended Pad Layout



Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.60	-	0.102
K	2.20	-	0.087	-
M	1.80	-	0.071	-

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