GOOD-ARK
SEMICONDUCTOR

MURS440/MURS460

Ultrafast Recovery Rectifiers
Reverse Voltage 400V-600V Forward Current 4.0 A

Features

- Low forward voltage drop
- Ultra-fast recovery time max 50ns
- Low Q_{rr} and I_{rm} reduces switching losses
- Moisture sensitivity: level 1, per J-STD-020
- Especially suited as boost diode in power factor correctors

Package: DO-214AB (SMC)

Applications

These diodes series are designed especially for use in Power Factor Correction applications as boost diode. Ideally suited for high voltage,high frequency rectification in car inverters, lighting, cellular phone, portable device, power supplies and other consumer applications.

RoHS COMPLIANT

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

Parameter	Symbol	MURS440	MURS460	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	400	600	V
Maximum RMS Voltage	V_{RMS}	280	420	V
Maximum DC Blocking Voltage	V_{DC}	400	600	V
Maximum Average Forward Rectified Current (See Fig.1)	$I_{F(AV)}$	4.0		A
Peak Forward Surge Current (8.3ms Single Half Sine-Wave Superimposed On Rated Load)	I_{FSM}	125		A
Operating Junction Temperature Range	T_J	- 55 to + 175		°C
Storage Temperature Range	T_{STG}	- 55 to + 175		

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

Parameter	Test Conditions	Symbol	MURS440	MURS460	Unit
Maximum Instantaneous Forward Voltage	4A	V_F	1.28		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A=25°C	I_R	10		μA
	T_A=150°C		250		
Maxinmum Reverse Recovery Time	I_F=0.5A,I_R=1.0A I_{rr}=0.25A, (RG-1)	t_{rr}	50		ns
Junction Capacitance	4.0V, 1MHz	C_J	70		pF
Typical Thermal Resistance[1]	Juntion-Ambient	$R_{\theta JA}$	34		°C/W
	Juntion-Case	$R_{\theta JC}$	17		
	Juntion-Lead	$R_{\theta JL}$	10		

Note:
1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 30×30mm copper pads.

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Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

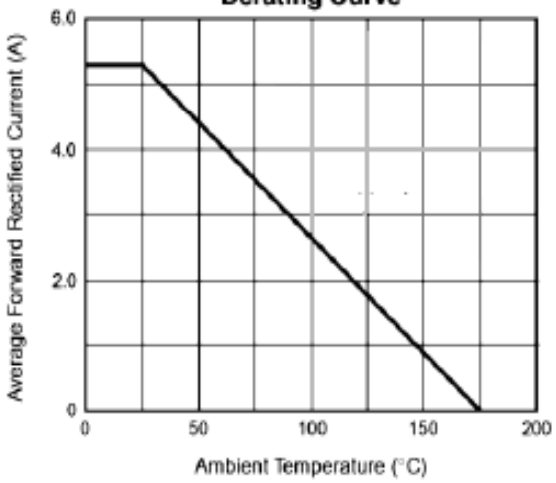


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

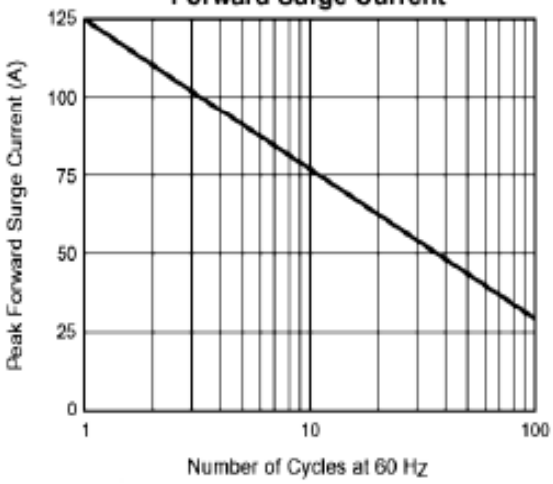


Fig. 3 – MURS460 Typical Instantaneous Forward Characteristics

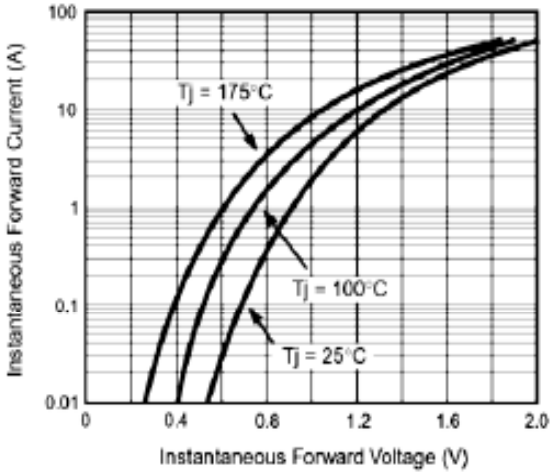


Fig. 4 – MURS460 Typical Reverse Characteristics

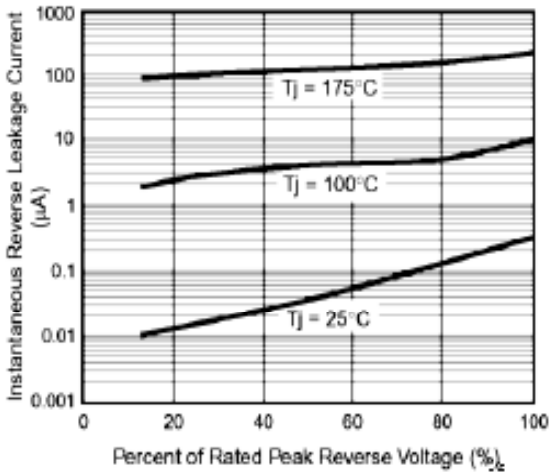
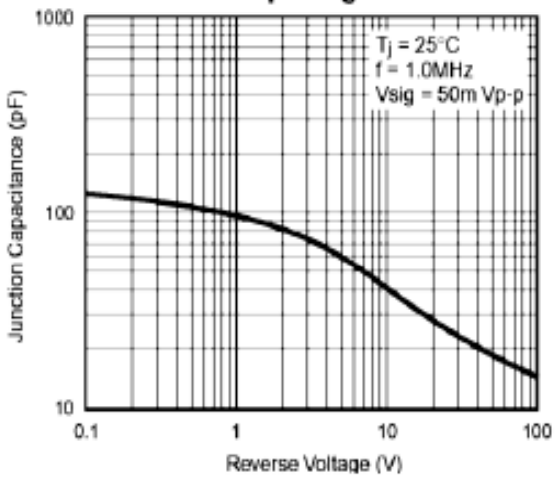


Fig. 5 – Typical Junction Capacitance per Leg



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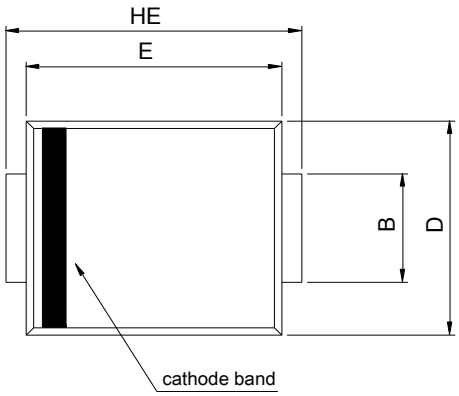
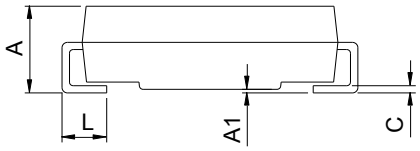
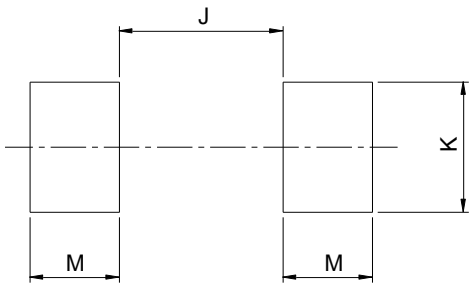
Package Outline Dimensions DO-214AB (SMC)





SMC (DO-214AB)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.00	0.20	0.000	0.008
B	2.90	3.20	0.114	0.126
C	0.15	0.31	0.006	0.012
D	5.58	6.22	0.220	0.245
E	6.60	7.15	0.260	0.281
HE	7.75	8.15	0.305	0.321
L	0.76	1.60	0.030	0.063

Recommended Pad Layout



SMC Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	4.60	-	0.181
K	3.20	-	0.126	-
M	2.00	-	0.079	-