MURS420-B THRU MURS460-B

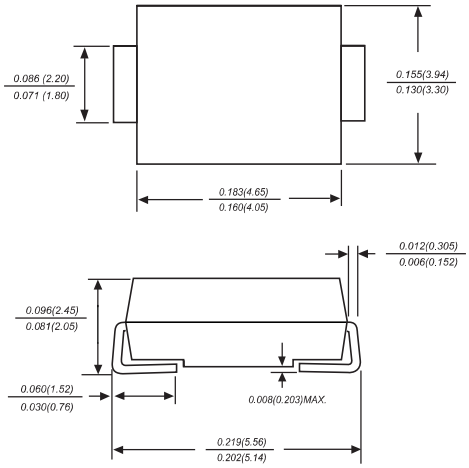
4.0A Surface Mount Ultra Fast Rectifiers - 200V-600V

Features

- Fast switching speed.
- Low profile surface mounted application in order to optimize board space.
- Surface mount package ideally suited for automatic insertion.
- Low power loss, high efficiency.
- High forward surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirments.
- Compliant to Halogen - free

Package outline

SMB/DO-214AA



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AA /SMB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			4.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			120	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_A = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		40		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		70		pF
Storage temperature		T_{STG}	-65		+175	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	trr *5 (ns)	Operating temperature T_J, (°C)
MURS420-B	200	140	200	0.875	25	-55 to +150
MURS440-B	400	280	400	1.300	50	
MURS460-B	600	420	600			

Note 1. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=4.0A

*5 Maximum Reverse recovery time, note 1

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

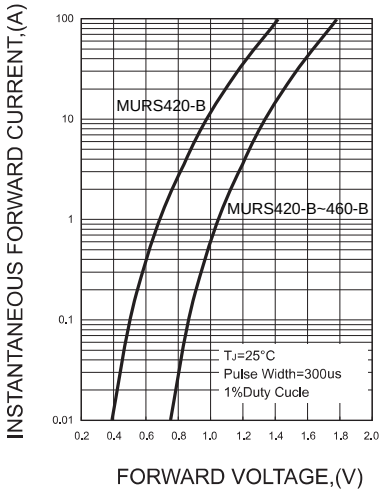


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

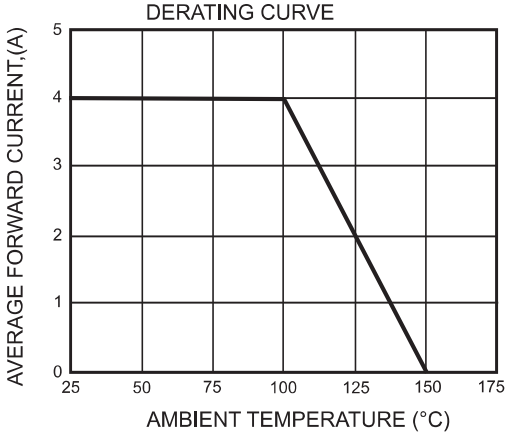
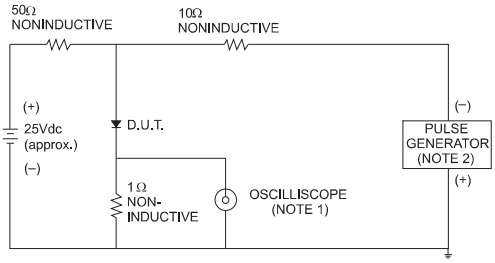


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

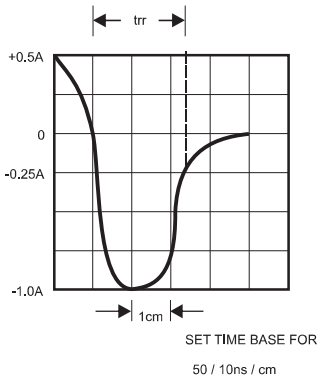


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

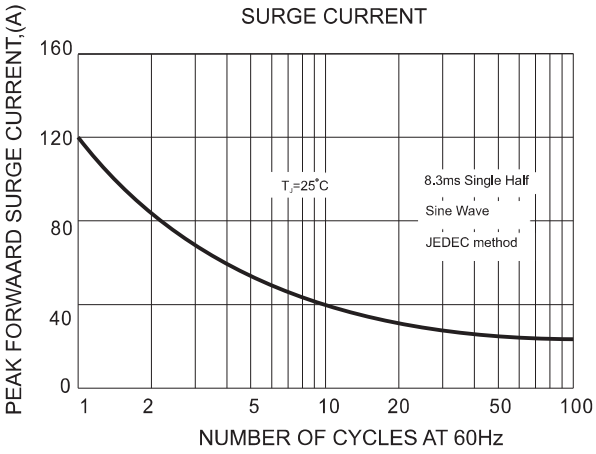
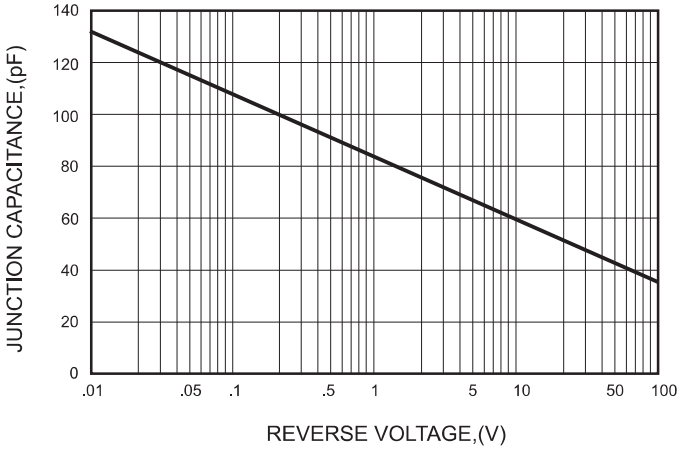


FIG.5-TYPICAL JUNCTION CAPACITANCE



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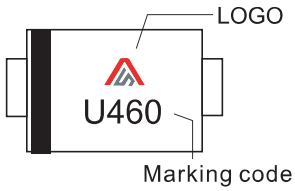
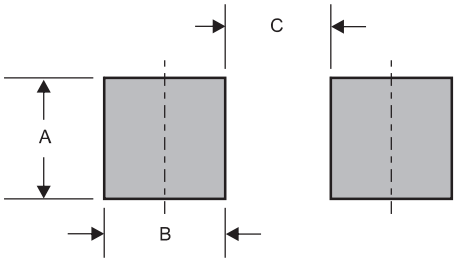
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
MURS420-B	U420	
MURS440-B	U440	
MURS460-B	U460	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMB	0.090(2.30)	0.098(2.50)	0.070(1.80)