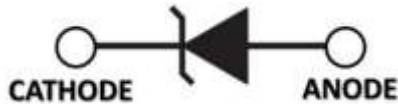


SURFACE MOUNT ULTRAFAST POWER RECTIFIERS**DESCRIPTION:**

The ALPMURS360BT3G series is Ultrafast Rectifiers 3 Amperes 600 Volts designed to Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

FEATURES:

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- High Temperature Glass Passivated Junction
- AEC-Q101 Qualified and PPAP Capable
- Pb-Free Packages are available
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- High voltage and High frequency rectification
- Freewheeling and protection diodes in surface mount applications
- Other Applications Requiring Unique Site and Control Change Requirements;



beyond boundaries...

ALPMURS360BT3G

CASE 403A (SMB)

TYPICAL DEVICE CHARACTERISTICS

ALPMURS360BT3G - MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Working Peak Reverse Voltage	V_{RWM}	600	V
DC Blocking Voltage	V_R	600	V
Average Rectified Forward Current	$I_{F(AV)}$	3.0 @ $T_L = 105^\circ\text{C}$	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100	A
Operating Junction Temperature	T_J	-65 to +175	°C

NOTE

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ALPMURS360BT3G - THERMAL CHARACTERISTICS @ 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	VALUE	UNITS
Thermal Resistance, Junction-to-Lead (Note 1)	$R_{\theta JL}$	14	°C/W
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{\theta JA}$	125	°C/W

NOTE

1. Mounted with minimum recommended pad size, PC Board FR4.

ALPMURS360BT3G - ELECTRICAL CHARACTERISTICS @ 25°C Unless Otherwise Specified

CHARACTERISTICS		SYMBOL	TYP	MAX	UNITS
Maximum Instantaneous Forward Voltage (Note 1)	($i_F = 3.0\text{ A}$, $T_J = 25^\circ\text{C}$)	V_F	-	1.25	V
	($i_F = 3.0\text{ A}$, $T_J = 150^\circ\text{C}$)		0.83	1.05	
Maximum Instantaneous Reverse Current (Note 1)	(Rated DC Voltage, $T_J = 25^\circ\text{C}$)	i_R	-	3.0	μA
	(Rated DC Voltage, $T_J = 150^\circ\text{C}$)		95	150	
Maximum Reverse Recovery Time	($i_F = 1.0\text{ A}$, $di/dt = 50\text{ A}/\mu\text{s}$)	t_{rr}	-	75	ns
	($i_F = 0.5\text{ A}$, $i_R = 1.0\text{ A}$, I_R to 0.25 A)		-	50	
Maximum Forward Recovery Time ($i_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V)		t_{fr}	-	50	ns

NOTE

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

TYPICAL DEVICE CHARACTERISTICS CURVES

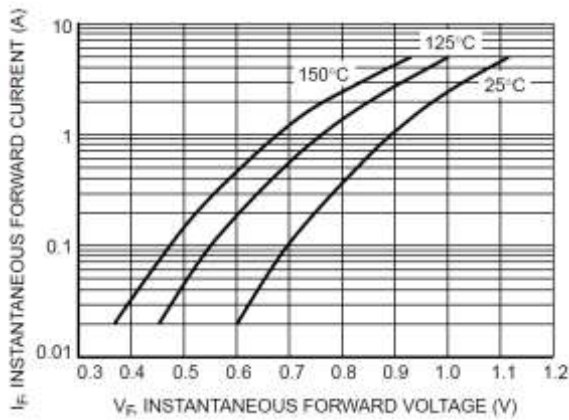


Fig1. TYPICAL FORWARD VOLTAGE

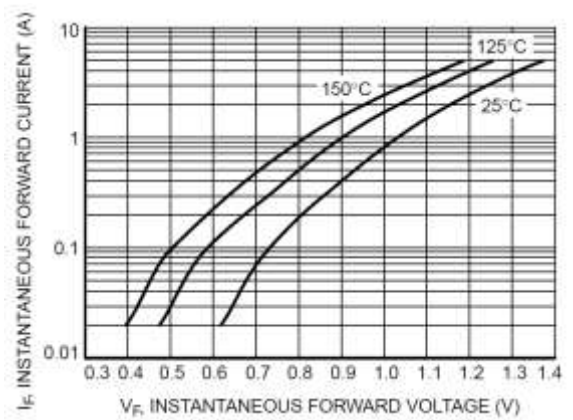


Fig2. MAXIMUM FORWARD VOLTAGE

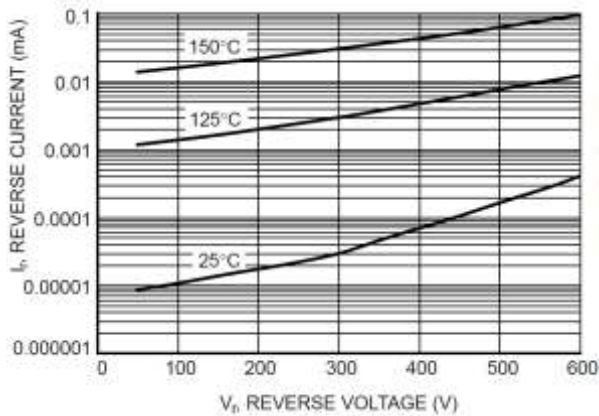


Fig3. TYPICAL REVERSE CURRENT

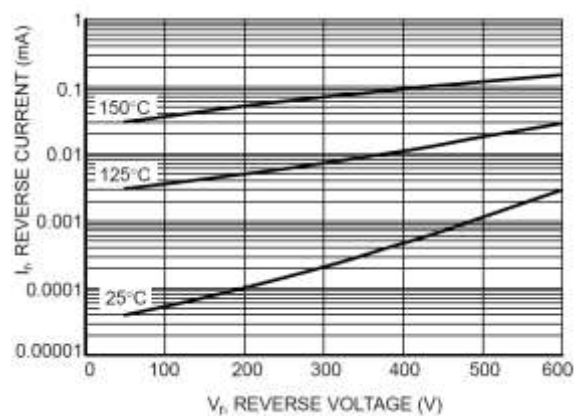


Fig4. MAXIMUM REVERSE CURRENT

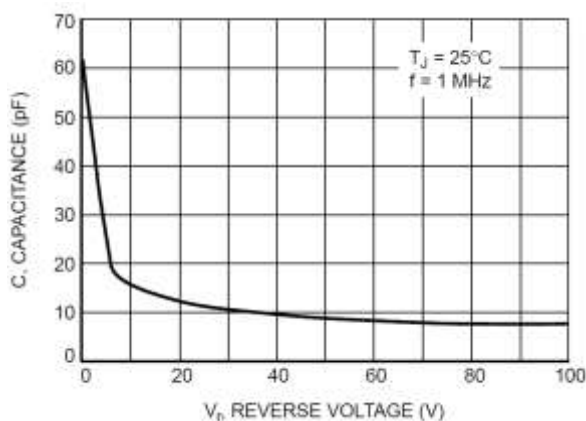


Fig5. TYPICAL CAPACITANCE

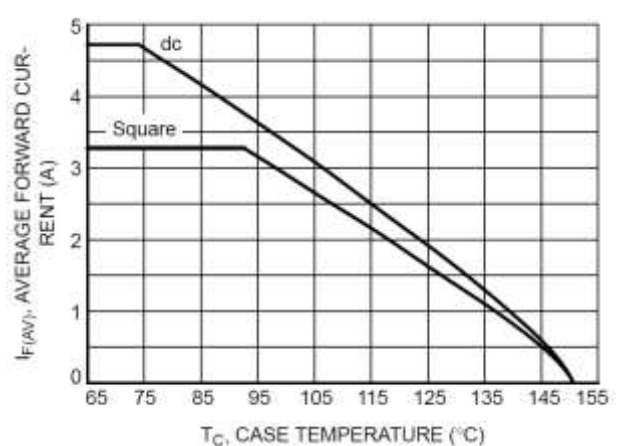


Fig6. CURRENT DERATING, LEAD

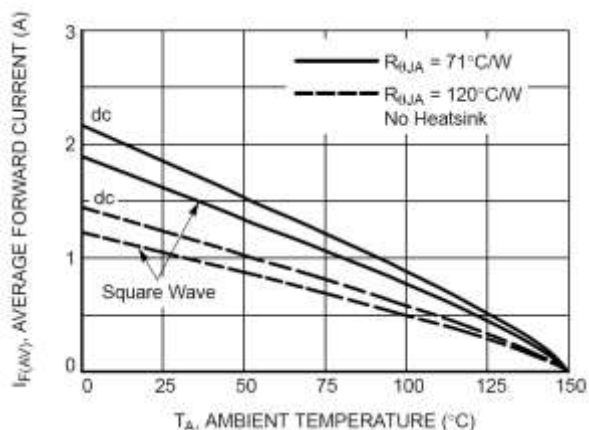


Fig7. Current Derating, Ambient

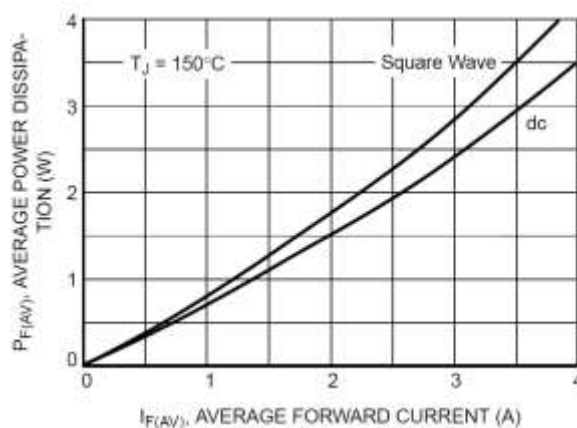


Fig8. Typical Forward Power Dissipation

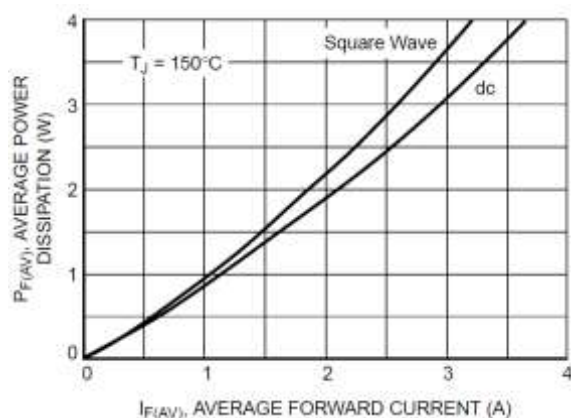


Fig9. Maximum Forward Power Dissipation

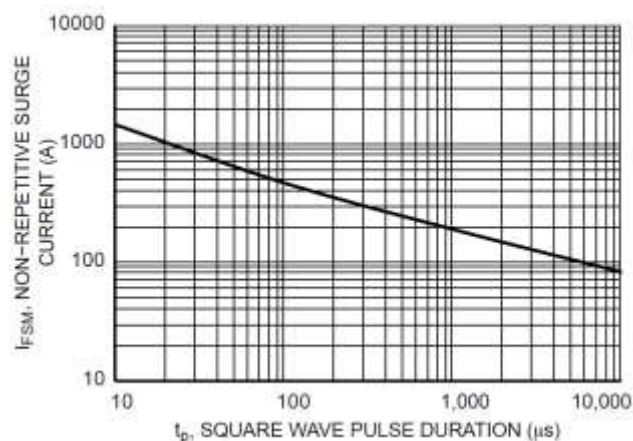


Fig10. Typical Non-Repetitive Surge Current

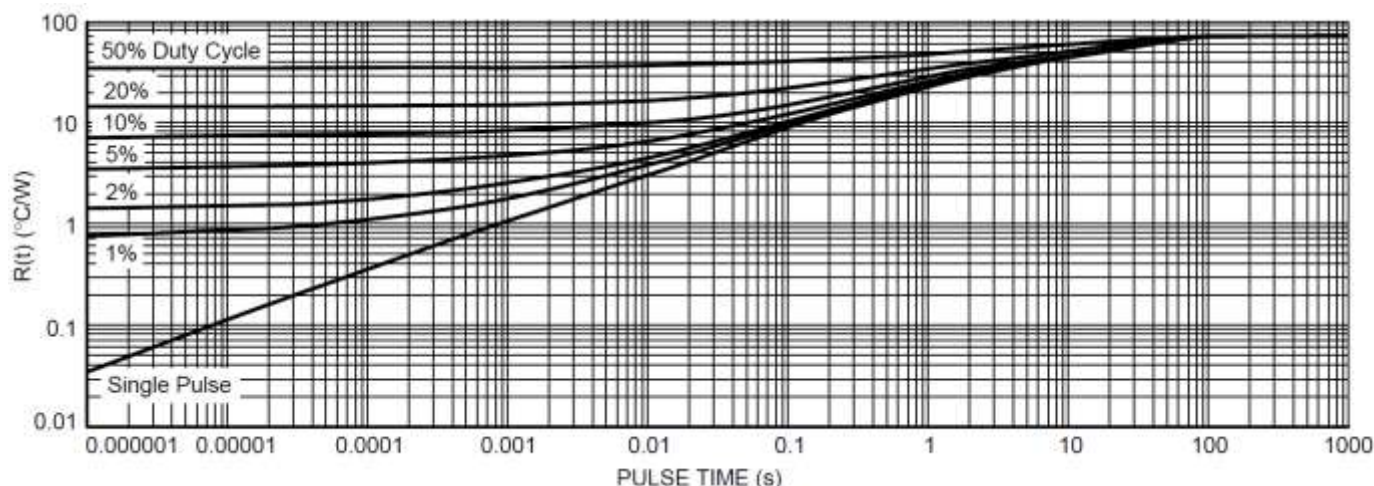
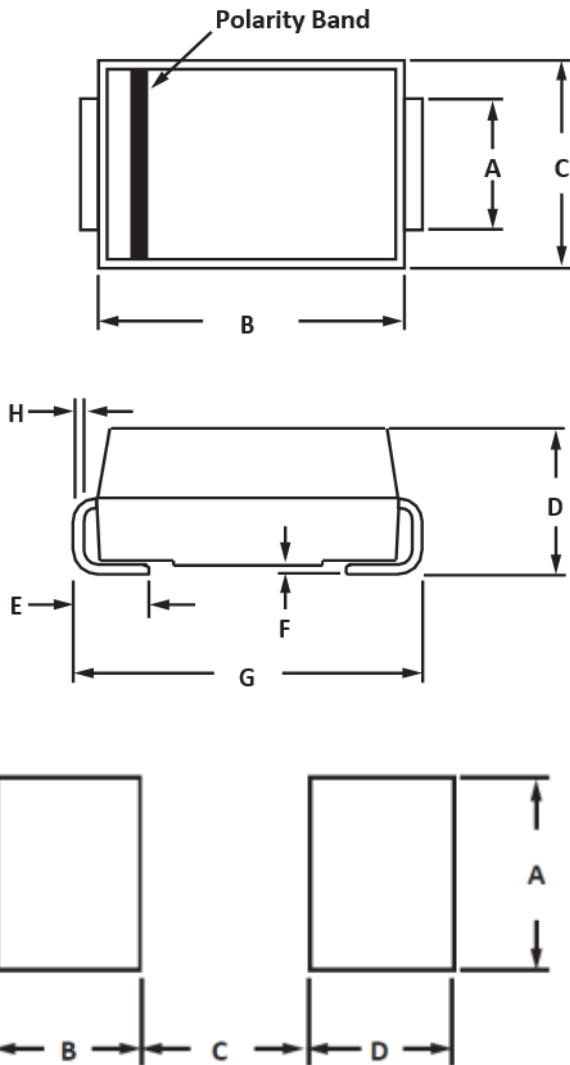


Fig11. Thermal Response, Junction-to-Ambient

PACKAGE INFORMATION

CASE 403A (SMB)



OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.96	2.20	0.077	0.087
B	4.06	4.60	0.160	0.181
C	3.30	3.95	0.130	0.156
D	1.95	2.47	0.077	0.097
E	0.76	1.60	0.030	0.063
F	0.05	0.20	0.002	0.008
G	5.21	5.60	0.205	0.220
H	0.15	0.31	0.006	0.012

NOTES

- Dimensions are exclusive of mold flash and metal burrs.
- PIN 1: CATHODE (POLARITY BAND)
- PIN 2: ANODE

PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.743	-	0.108	-
B	2.159	-	0.085	-
C	2.261	-	0.089	-
D	2.159	-	0.085	-



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ALPMURS360BT3G

CASE 403A (SMB)

CUSTOMER NOTE:

DISCLAIMER

The product information and the selection guide facilitates the selection of the ALPINESEMI™'s Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review the Data sheet(s) so as to confirm that the Device(s) meets functionality parameters for your application. The information furnished on the Data Sheet and the ALPINESEMI™'s Web Site is believed to be accurate and reliable at the time of preparation of this document. ALPINESEMI™ however, does not assume any inaccuracies that may arise when the components are mounted and removed. Furthermore, ALPINESEMI™ does not assume liability whatsoever, arising out of the application or the use of any of ALPINESEMI™'s product(s). Neither, does it convey any license under its patent rights nor the rights of others. These products are not guaranteed for use in life saving/support appliances or systems. ALPINESEMI™'s customers using these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and ALPINESEMI™ will not be responsible in any way(s) for any damage(s) resulting from such use.

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Component Disposal Instructions

1. ALPINESEMI™ Semiconductor Devices are RoHS compliant and hence customers are requested to dispose as per the prevailing Environmental Legislation put forth in their specific country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).



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