800V Tj175' Super Slim Ultra LVF Bridge with Top-Side Cooling Package

Voltage	800 V	Current	25A

M12

Features

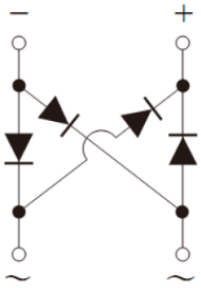
- Oxide planar chip junction
- Low forward voltage drop (VF@0.72V)
- Low leakage current (IR@20uA)
- Lead free in compliance with EU RoHS 2.0
- Halogen-free according to IEC 61249 standard
- Fulfill Wettable Flank Capability
- Super slim@1.3mm thickness
- Panel Level Package Technology

Mechanical Data

- Case : M12 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.7742 grams

Application

- Power: Server / AI / Industrial
- PC Power: 80+Platinum Titanium
- Power: Redundant / Telecom
- Gaming Power: NB / PC
- PD > 120W



Key Parameters	
Parameter	**Value**
V_{RRM}	800V
$I_F(AV)$	25A
I_{FSM}	350A
V_F@175°C	0.72V
I_R	1uA
TJ max.	175°C
Package	M12

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

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	800	V
Maximum RMS Voltage		V_{RMS}	560	V
Maximum DC Blocking Voltage		V_{DC}	800	V
Maximum Average Forward Current	With heatsink	$I_{F(AV)}$	25	A
	Without heatsink		5.8(TBD)	
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	@ T_A = 25 °C	I_{FSM}	350	A
	@ T_A = 125 °C		280	
Peak Forward Surge Current : 1.0 ms Single Half Sine-Wave Superimposed On Rated Load	@ T_A = 25 °C	I_{FSM}	600	A
	@ T_A = 125 °C		500	
I^2t rating for fusing (t = 8.3ms)		I^2t	508	A^2S
Typical Junction Capacitance Measured at 1 MHZ And Applied V_R = 4 V		C_J	170	pF
Typical Thermal Resistance (Note 1) (with heatsink)		$R_{\theta JA}$	6(TBD)	°C/W
		$R_{\theta JL}$	3(TBD)	
		$R_{\theta JC}$	1(TBD)	
Operating junction and storage temperature range		T_J, T_{STG}	-55~175	°C

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	I_F = 12.5 A, T_J = 25 °C	-	0.88	0.92	V
		I_F = 12.5 A, T_J = 125 °C	-	0.75	-	
Reverse Current	I_R	V_R = 800 V, T_J = 25 °C	-	0.2	1	uA
		V_R = 800 V, T_J = 125 °C	-	20	-	

NOTES :

1. Mounted on a FR4,100x100x1.6mm ,2oz copper pad area .

TYPICAL CHARACTERISTIC CURVES

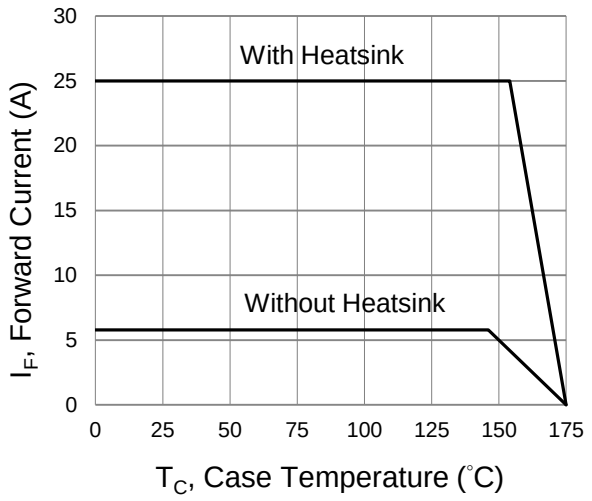


Fig.1 Forward Current Derating Curve

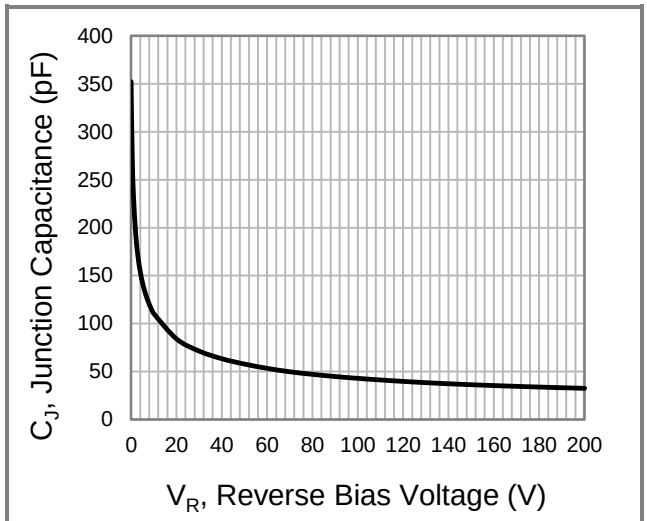


Fig.2 Typical Junction Capacitance

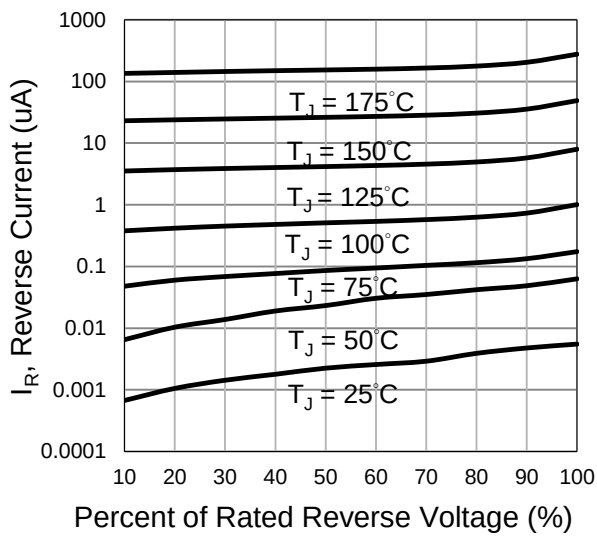


Fig.3 Typical Reverse Characteristics

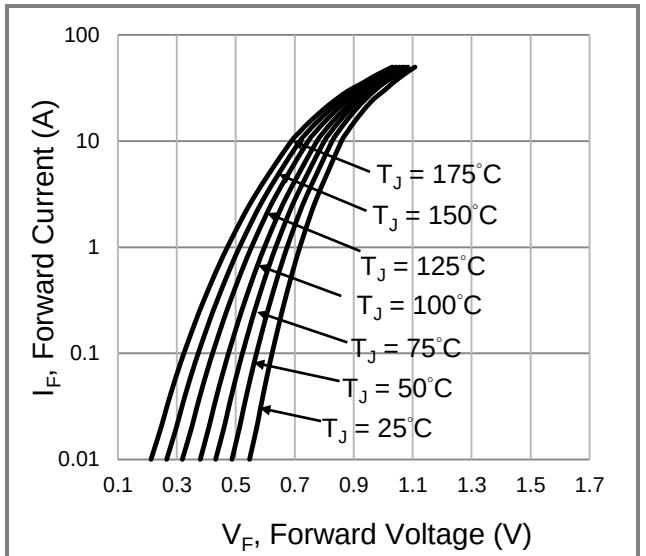


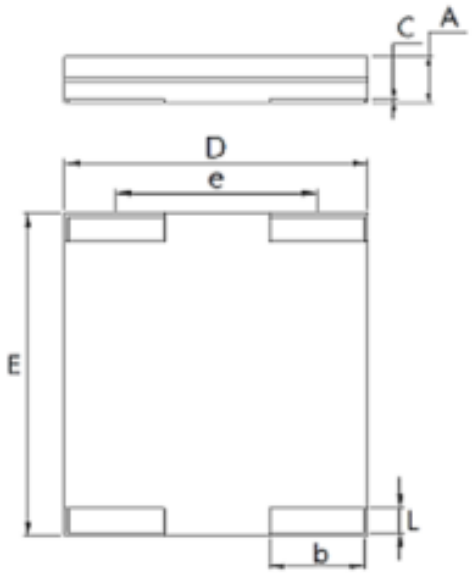
Fig.4 Typical Forward Characteristics

Part No. Marking Code Version

Approved Part No.	Package Type	Packing Type	Marking
PMQ2508HULV	M12	2K pcs / 13” reel	PMQ2508HULV

Packaging Information

M12 Dimension — Unit: inch(mm)



M12 Dimension.Unit:Inch (mm)	
Dim	Unit (mm)
	TPY
A	1.301
b	3.128
C	0.086
D	10.167
E	11.931
e	6.951
L1	0.803

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