TRR®

TMBF810
ULBF810

SuperPlanar™ Bridge Rectifiers

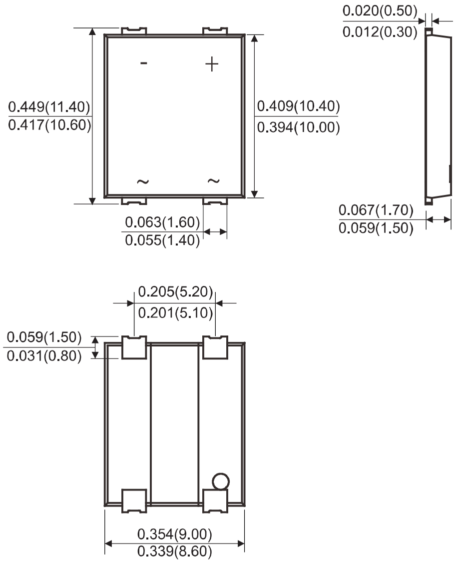
Reverse Voltage: 1000 Volts
Forward Current: 8.0 Ampere

RoHS Device
Halogen Free

Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- Ideal for printed circuit boards
- High temperature soldering guaranteed: 260°C/10 seconds

TMBF/ULBF

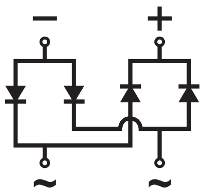


Dimensions in inches and (millimeter)

Mechanical data

- Case: TMBF/**ULBF** molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Leads solderable per MIL-STD-750,
- Mounting position: Any

Circuit diagram



Maximum Ratings (at Ta=25 °C unless otherwise specified)

Characteristic		Symbol	TMBF810 /ULBF810	Units
Peak repetitive reverse voltage		V_{RRM}	1000	V
RMS reverse voltage		V_{RMS}	700	V
DC blocking voltage		V_{DC}	1000	V
Maximum average forward output current		$I_{F(AV)}$	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	@T_A=25°C @T_A=125°C	I_{FSM}	170 135	A
I^2t rating for fusing (t < 8.3ms)		I^2t	70	A^2s

Thermal Characteristics

Characteristic	Symbol	TMBF810/ULBF810	Units
Typical thermal resistance per leg (Note 1)	$R_{\theta JA}$	38	°C/W
	$R_{\theta JC}$	10.4	
	$R_{\theta JL}$	7.5	
Operating junction temperature range	T_J	-55 ~ +150	°C
Storage temperature range	T_{STG}	-55 ~ +150	°C

Note: 1. Device mounted on PCB with 10mm x 20mm x 0.1mm copper pad areas.

Electrical Characteristics (at Ta=25 °C unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Max. instantaneous forward voltage	V_F	I_F = 4.0A Per diode	@T_A=25°C	0.91	0.95	V
			@T_A=125°C	0.95	1.0	
Max. reverse current	I_R	Rated V_R, Per diode	@T_A=25°C	0.12	1.0	μA
			@T_A=125°C	40	100	

Rating and Characteristic Curves

FIG.1- FORWARD CURRENT DERATING CURVE

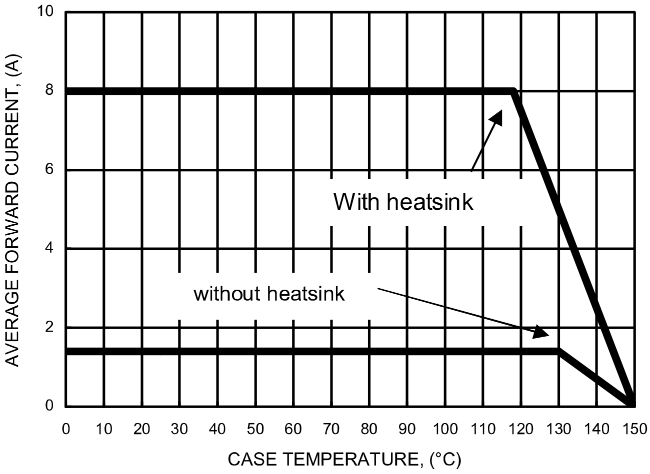


FIG.2- FORWARD CURRENT DERATING CURVE

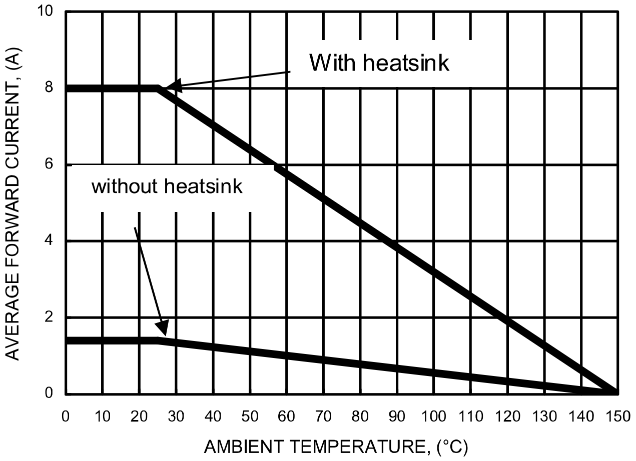


FIG.3- MAXIMUM NON-REPETITIVE SURGE CURRENT

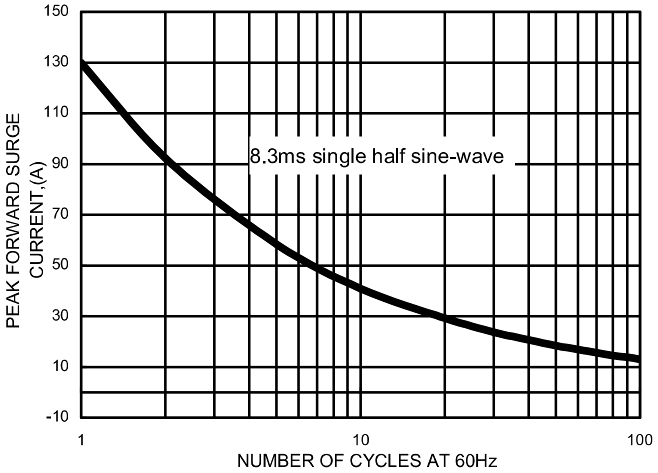


FIG.4- TYPICAL FORWORD CHARACTERISTICS

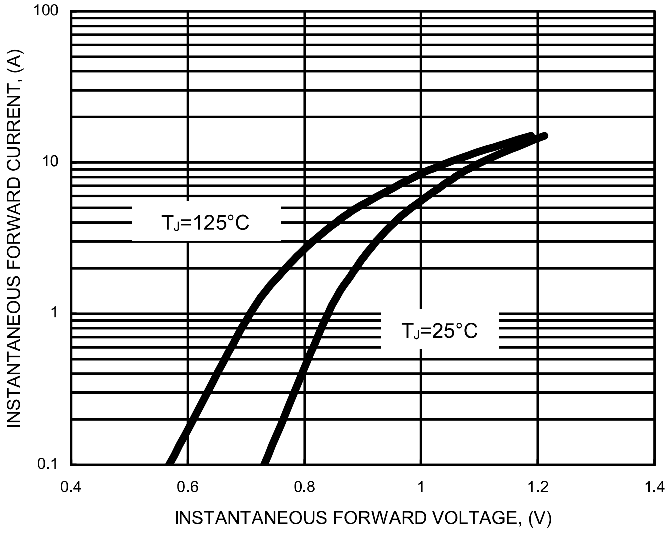


FIG.5- TYPICAL JUNCTION CAPACITANCE

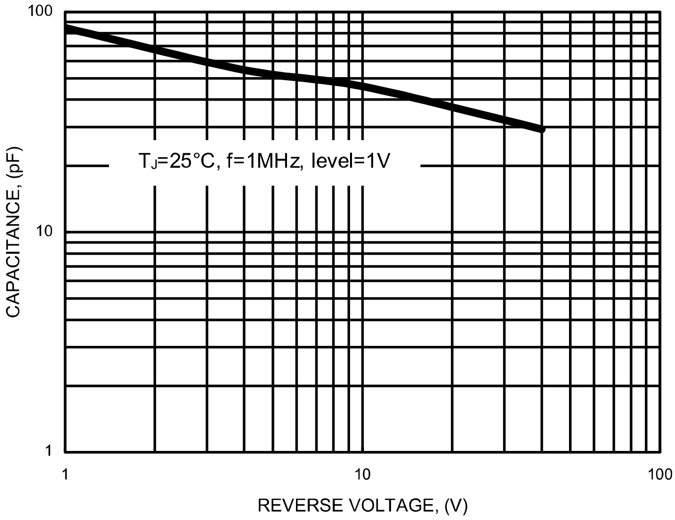
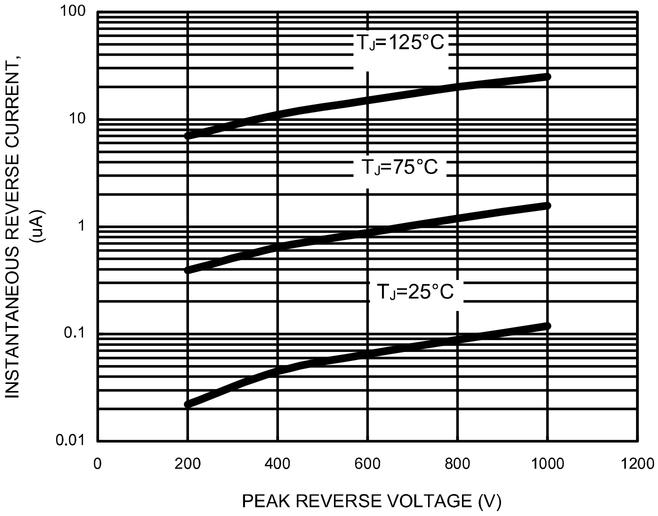


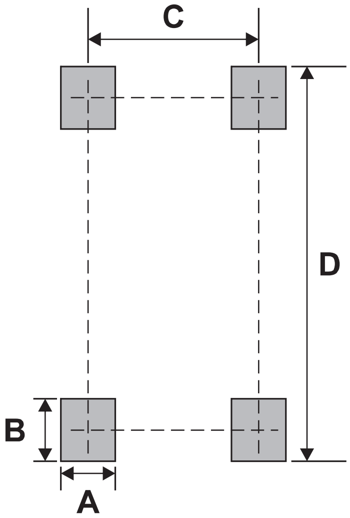
FIG.6- TYPICAL REVERSE CHARACTERISTICS



Suggested PAD Layout

SIZE	TMBF/ULBF	
	(mm)	(inch)
A	1.63	0.064
B	1.87	0.074
C	5.10	0.201
D	11.80	0.465

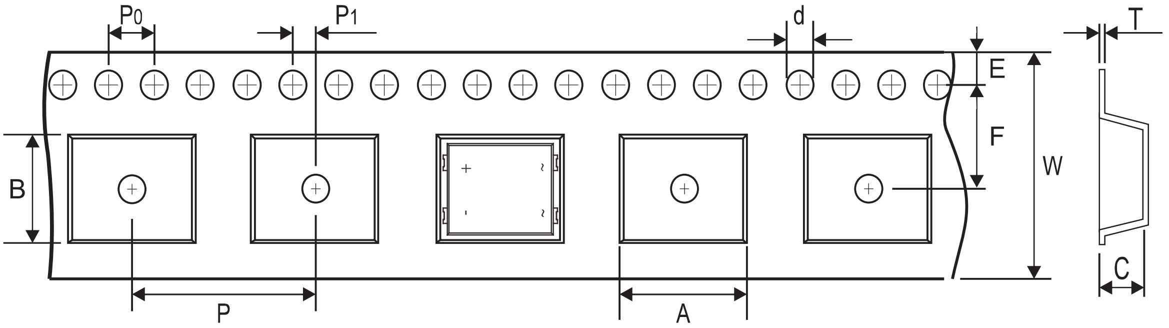
Note: 1. The pad layout is for reference purposes only.

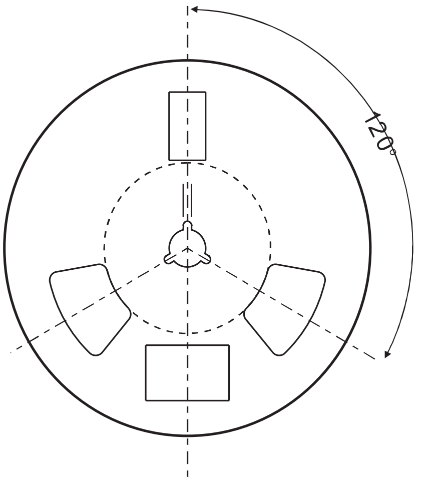


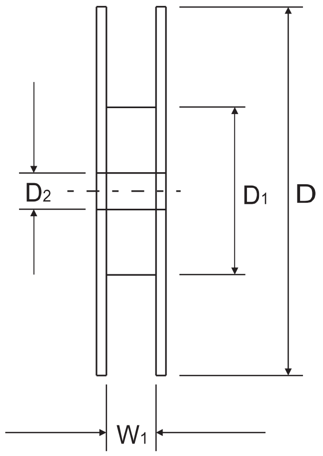
Standard Packaging

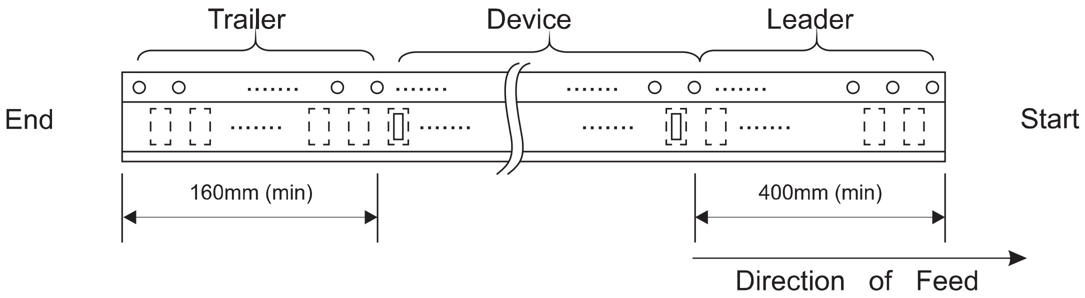
Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
TMBF/ULBF	1,500	13

Reel Taping Specification









	SYMBOL	A	B	C	d	D	D1	D2
TMBF /ULBF	(mm)	11.30 ± 0.10	9.00 ± 0.10	1.80 ± 0.10	1.50 ± 0.10	330.00 ± 1.00	75.00 ± 1.00	13.50 ± 0.05
	(inch)	0.445 ± 0.004	0.354 ± 0.004	0.071 ± 0.004	0.059 ± 0.004	12.992 ± 0.039	2.953 ± 0.039	0.531 ± 0.002

	SYMBOL	E	F	P	P0	P1	T	W	W1
TMBF /ULBF	(mm)	1.75 ± 0.10	7.50 ± 0.05	16.00 ± 0.05	4.00 ± 0.05	2.00 ± 0.05	0.30 ± 0.05	16.00 ± 0.10	17.00 ± 1.00
	(inch)	0.069 ± 0.004	0.295 ± 0.002	0.630 ± 0.002	0.157 ± 0.002	0.079 ± 0.002	0.012 ± 0.002	0.630 ± 0.004	0.669 ± 0.039