Silicon Passivated
Three Phase Bridge Rectifier

Features

- Diffused junction
- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Ideal for printed circuit boards

Mechanical Data

Case : Epoxy case with heat sink laterally mounted in the bridge encapsulation
Terminals : Plated leads solderable per MIL-STD-202, Method 208
Polarity : As Marked on Body
Weight : 20 grams (approx.)
Mounting Position : Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
Mounting Torque : 20 in lbs. Max.

Maximum Ratings And Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Voltage Ratings												**Unit**
Characteristics	**Symbol**	SBR2500	SBR2501	SBR2502	SBR2504	SBR2506	SBR2508	SBR2510	SBR2512	SBR2514	SBR2516	
Peak Repetitive Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	1200	1400	1600	V
Peak Non-Repetitive Reverse Voltage	V_{RSM}	75	150	275	500	725	900	1100	1300	1500	1700	
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	1120	
Forward Conduction												
Characteristics	**Symbol**	**SBR25 Series**										**Unit**
Maximum Average Forward Rectified Current @T_C = 60°C	I_O	25										A
Non-Repetitive Peak Forward Surge Current (No Voltage Reapplied t=8.3ms at 60Hz) (No Voltage Reapplied t=10ms at 50Hz) (100% V_{RRM} Reapplied t=8.3ms at 60Hz) (100% V_{RRM} Reapplied t=10ms at 50Hz)	I_{FSM}	375 360 314 300										
I^2t Rating for fusing (No Voltage Reapplied t=8.3ms at 60Hz) (No Voltage Reapplied t=10ms at 50Hz) (100% V_{RRM} Reapplied t=8.3ms at 60Hz) (100% V_{RRM} Reapplied t=10ms at 50Hz)	I^2t	580 635 410 450										A^2S

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Characteristics	Symbol	SBR25 Series	Unit
Maximum Forward Voltage drop per element at 12.5A/17.5A Peak	V_F	1.1	V
Peak Reverse Current (per leg) @T_J=25°C At Rated DC Blocking Voltage @T_J=125°C	I_R	10 5	μA mA
RMS Isolation Voltage from Case to Lead	V_{ISO}	2,500	V
Thermal Characteristics			
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}		
Thermal Resistance Junction to Case at DC Operation per Bridge	$R_{\theta JC}$	1.42	k/W
Thermal Resistance Case to Heatsink Mounting Surface, Smooth, Flat and Greased	$R_{\theta CS}$	0.2	

Rating and Characteristic Curves

FIG.1-CURRENT RATING CHARACTERISTICS

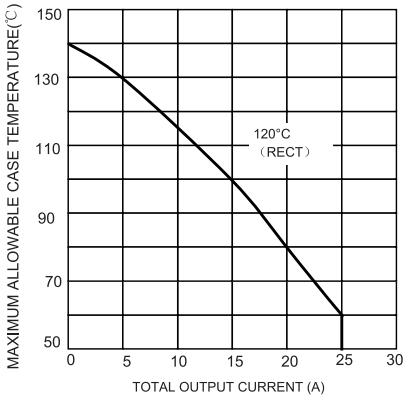


FIG.2-FORWARD VOLTAGE DROP CHARACTERISTICS

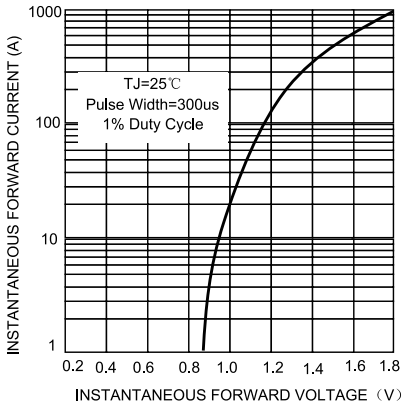


FIG.3-TOTAL POWPER LOSS CHARACTERISTICS

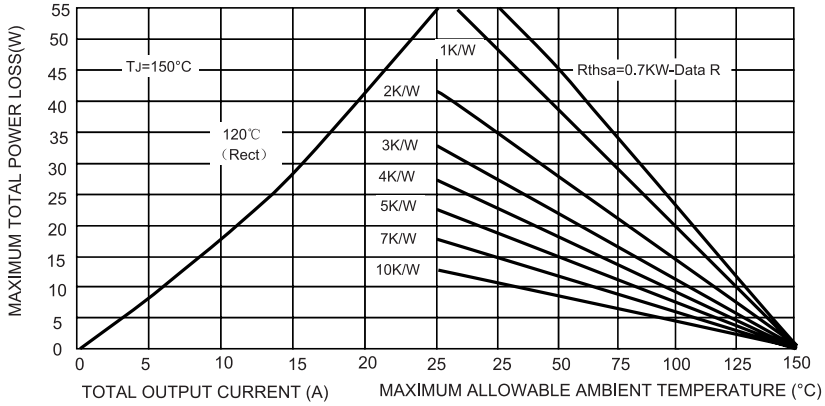


FIG.4-MAXIMUM NON-REPETITIVE SURGE CURRENT

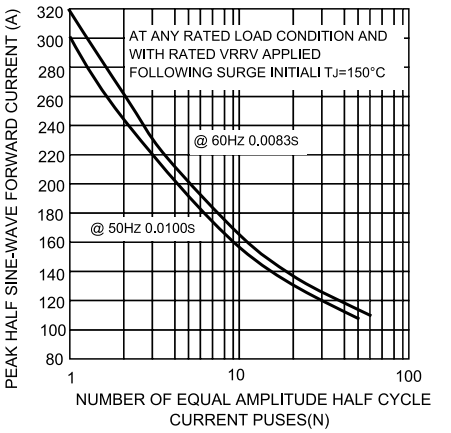
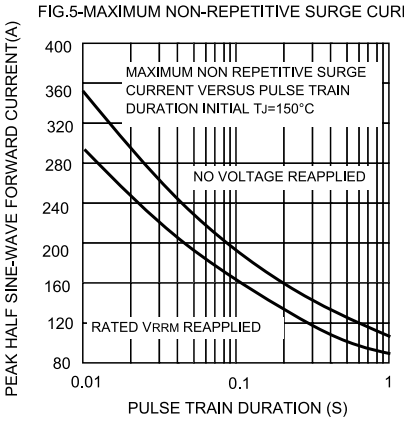
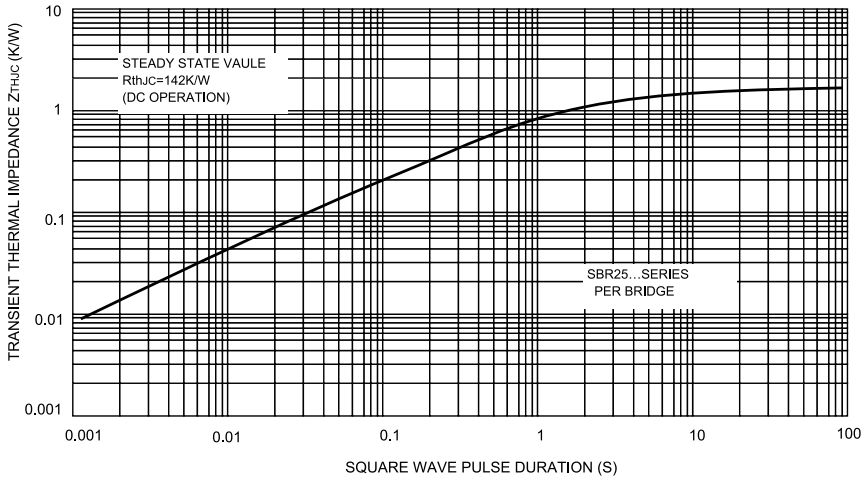


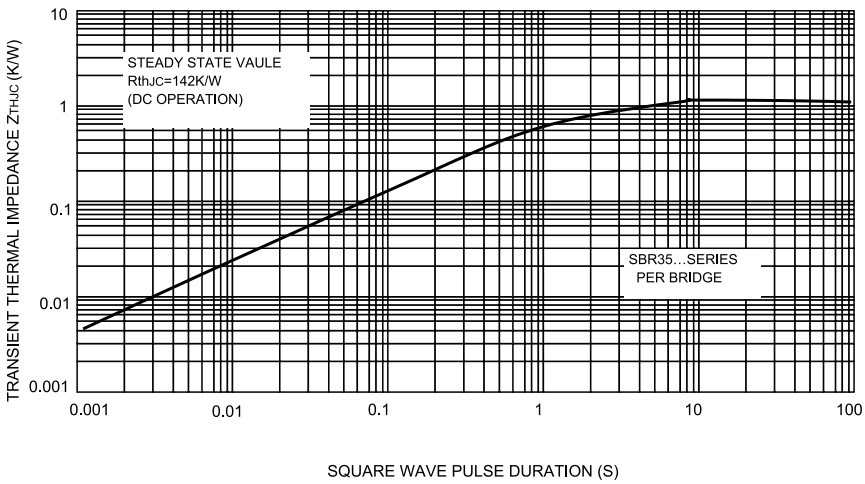
FIG.5-MAXIMUM NON-REPETITIVE SURGE CURRENT



THERMAL IMPEDANCE Z THJC CHARACTERISTICS



THERMAL IMPEDANCE Z THJC CHARACTERISTICS



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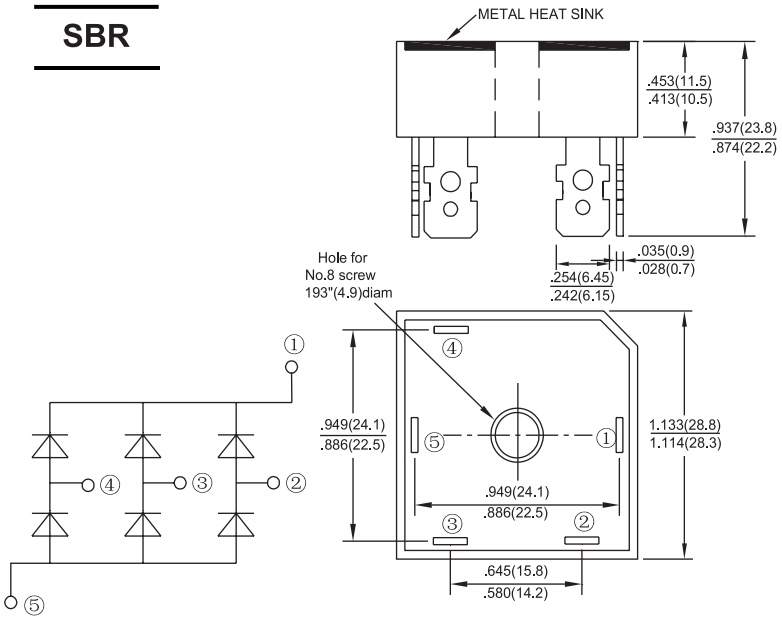
Dimension:

SBR



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Three Phase Bridge 25A 50V SBR Package	SBR2500
Three Phase Bridge 25A 100V SBR Package	SBR2501
Three Phase Bridge 25A 200V SBR Package	SBR2502
Three Phase Bridge 25A 400V SBR Package	SBR2504
Three Phase Bridge 25A 600V SBR Package	SBR2506
Three Phase Bridge 25A 800V SBR Package	SBR2508
Three Phase Bridge 25A 1000V SBR Package	SBR2510
Three Phase Bridge 25A 1200V SBR Package	SBR2512
Three Phase Bridge 25A 1400V SBR Package	SBR2514
Three Phase Bridge 25A 1600V SBR Package	SBR2516