

# 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	SBR3500	SBR3501	SBR3502	SBR3504	SBR3506	SBR3508	SBR3510	SBR3512	SBR3514	SBR3516		
Peak Repetitive Voltage	V <sub>RRM</sub>											V	
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	1200	1400	1600		
DC Blocking Voltage	V <sub>R</sub>												
Peak Non-Repetitive Reverse Voltage	V <sub>RSM</sub>	75	150	275	500	725	900	1100	1300	1500	1700		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	840	980	1120		
Forward Conduction													
Characteristics	Symbol	SBR25 Series										Unit	
Maximum Average Forward Rectified Current @T <sub>c</sub> = 60°C	I <sub>o</sub>	35										A	
Non-Repetitive Peak Forward Surge Current (No Voltage Reapplied t=8.3ms at 60Hz) (No Voltage Reapplied t=10ms at 50Hz) (100% V <sub>RRM</sub> Reapplied t=8.3ms at 60Hz) (100% V <sub>RRM</sub> Reapplied t=10ms at 50Hz)	I <sub>FSM</sub>	500 475 420 400											
I <sup>2</sup> t Rating for fusing (No Voltage Reapplied t=8.3ms at 60Hz) (No Voltage Reapplied t=10ms at 50Hz) (100% V <sub>RRM</sub> Reapplied t=8.3ms at 60Hz) (100% V <sub>RRM</sub> Reapplied t=10ms at 50Hz)	I <sup>2</sup> t	1030 1130 730 800											A <sup>2</sup> S

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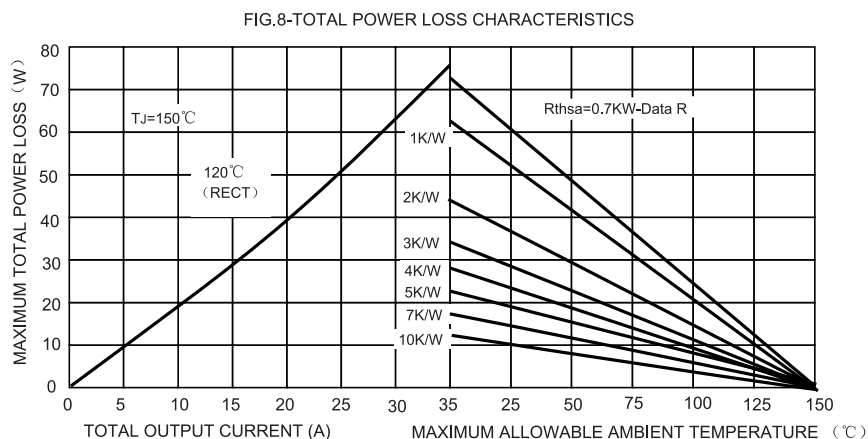
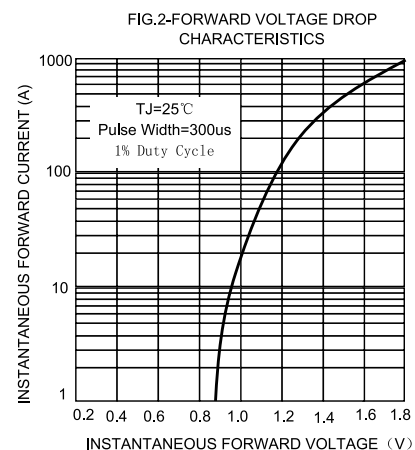
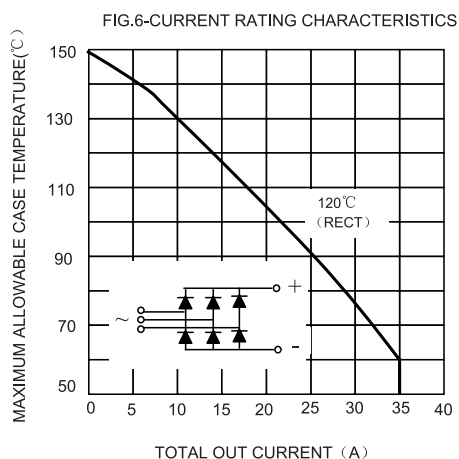


# Silicon Passivated Three Phase Bridge Rectifier



Characteristics	Symbol	SBR25 Series	Unit
Maximum Forward Voltage drop per element at 12.5A/17.5A Peak	$V_F$	1.2	V
Peak Reverse Current (per leg) @ $T_J=25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_J=125^\circ\text{C}$	$I_R$	10 5	$\mu\text{A}$ mA
RMS Isolation Voltage from Case to Lead	$V_{ISO}$	2,500	V
<b>Thermal Characteristics</b>			
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$		
Thermal Resistance Junction to Case at DC Operation per Bridge	$R_{\theta JC}$	1.16	k/W
Thermal Resistance Case to Heatsink Mounting Surface, Smooth, Flat and Greased	$R_{\theta CS}$	0.2	

## Rating and Characteristic Curves



# Silicon Passivated Three Phase Bridge Rectifier



FIG.9-MAXIMUM NON-REPETITIVE SURGE CURRENT

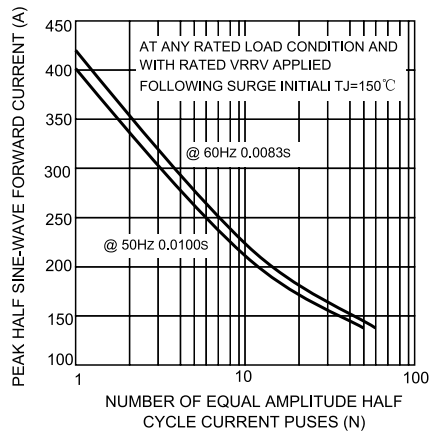
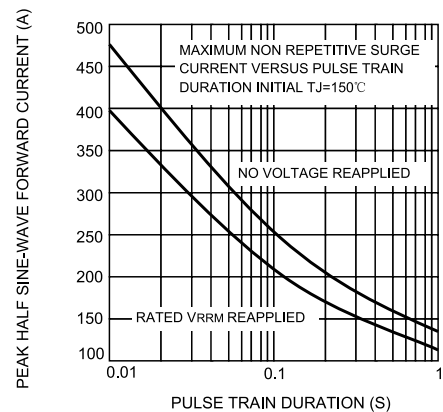
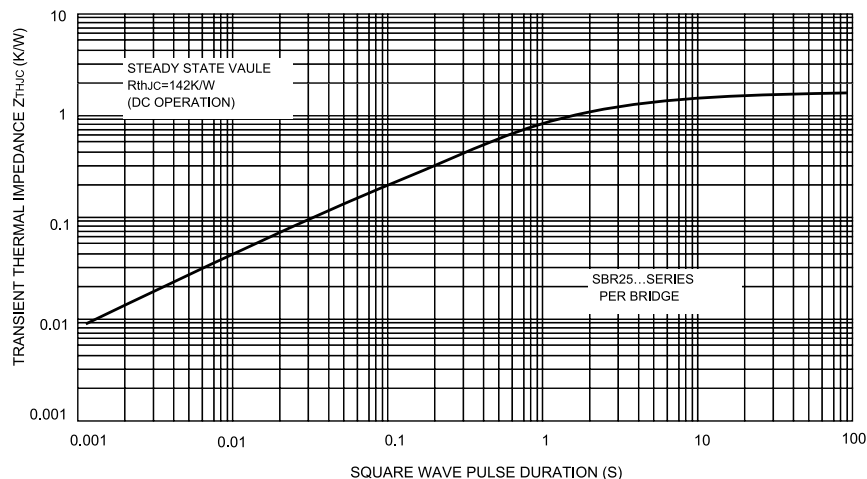


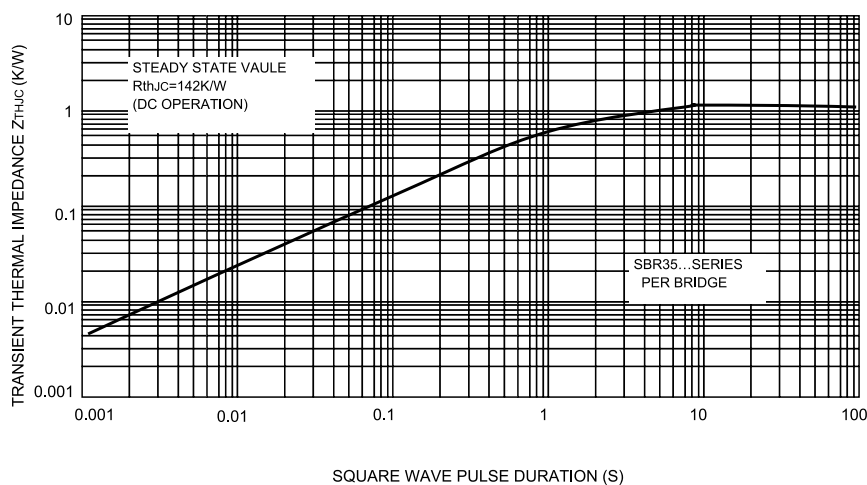
FIG.10-MAXIMUM NON-REPETITIVE SURGE CURRENT



THERMAL IMPEDANCE  $Z_{THJC}$  CHARACTERISTICS



THERMAL IMPEDANCE  $Z_{THJC}$  CHARACTERISTICS

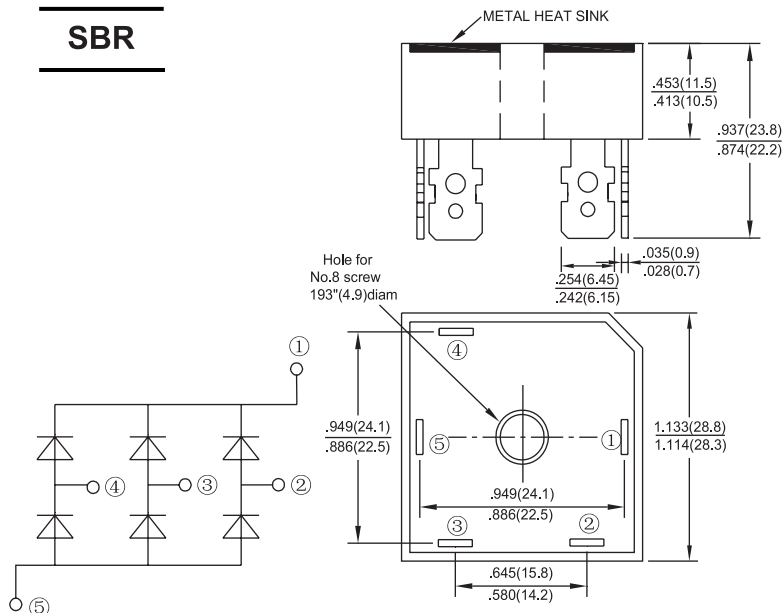


# Silicon Passivated Three Phase Bridge Rectifier



## Dimension:

### SBR



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
Three Phase Bridge 35A 50V Faston Lead SBR Package	SBR3500
Three Phase Bridge 35A 100V Faston Lead SBR Package	SBR3501
Three Phase Bridge 35A 200V Faston Lead SBR Package	SBR3502
Three Phase Bridge 35A 400V Faston Lead SBR Package	SBR3504
Three Phase Bridge 35A 600V Faston Lead SBR Package	SBR3506
Three Phase Bridge 35A 800V Faston Lead SBR Package	SBR3508
Three Phase Bridge 35A 1000V Faston Lead SBR Package	SBR3510
Three Phase Bridge 35A 1200V Faston Lead SBR Package	SBR3512
Three Phase Bridge 35A 1400V Faston Lead SBR Package	SBR3514
Three Phase Bridge 35A 1600V Faston Lead SBR Package	SBR3516

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