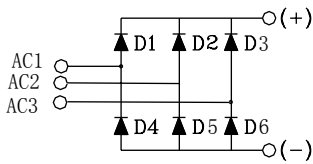
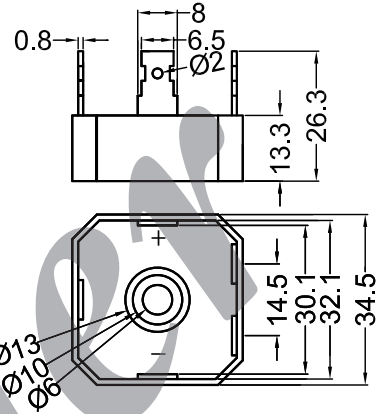


# S3PDB40NXX

## Three Phase Bridge Rectifiers



Dimensions in mm (1mm=0.0394")



Type	V <sub>RSM</sub> V	V <sub>RRM</sub> V
S3PDB40N06	700	600
S3PDB40N08	900	800
S3PDB40N12	1300	1200
S3PDB40N14	1500	1400
S3PDB40N16	1700	1600

Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>dav</sub>	T <sub>C</sub> =55°C, module	40	A
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C V <sub>R</sub> =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	350 420	A
	T <sub>VJ</sub> =T <sub>VJM</sub> V <sub>R</sub> =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	300 370	
I <sup>2</sup> t	T <sub>VJ</sub> =45°C V <sub>R</sub> =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1360 1220	A <sup>2</sup> s
	T <sub>VJ</sub> =T <sub>VJM</sub> V <sub>R</sub> =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1150 1050	
T <sub>VJ</sub> T <sub>VJM</sub> T <sub>stg</sub>		-55...+150 150 -55...+125	°C
V <sub>ISOL</sub>	50/60Hz, RMS I <sub>ISOL</sub> ≤1mA t=1min t=1s	2500 3000	V~
M <sub>d</sub>	Mounting torque (M4)	2 ± 15%	Nm
Weight	typ.	22	g

# S3PDB40NXX

## Three Phase Bridge Rectifiers

Symbol	Test Conditions	Characteristic Values	Unit
$I_R$	$V_R=V_{RRM}; T_{VJ}=25^{\circ}C$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	$\leq 5$ $\leq 1000$	$\mu A$
$V_F$	$I_F=15A; T_{VJ}=25^{\circ}C$	$\leq 1.1$	V
$V_{TO}$	For power-loss calculations only	0.8	V
$r_T$	$T_{VJ}=T_{VJM}$	3.821	$m\Omega$
$R_{thJC}$	per diode per module	1.25 0.31	K/W
$R_{thJK}$	per diode per module	1.4 0.35	K/W
$d_s$	Creeping distance on surface	10	mm
$d_A$	Creepage distance in air	9.4	mm
$a$	Max. allowable acceleration	50	$m/s^2$

### FEATURES

- \* Rating to 1600V PRV
- \* High efficiency
- \* Glass passivated chip junction
- \* Electrically isolated metal case for maximum heat dissipation

### APPLICATIONS

- \* Supplies for DC power equipment
- \* Input rectifiers for PWM inverter
- \* Battery DC power supplies
- \* Field supply for DC motors

### ADVANTAGES

- \* Easy to mount one screw
- \* Space and weight savings
- \* Improved temperature and power cycling

# S3PDB40NXX

## Three Phase Bridge Rectifiers

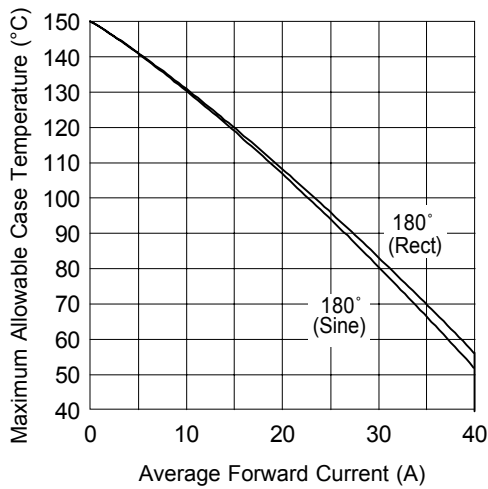


Fig. 1 - Current Ratings Characteristics

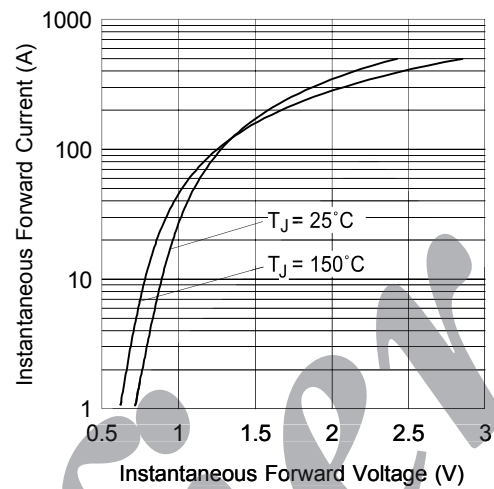


Fig. 2 - Forward Voltage Drop Characteristics

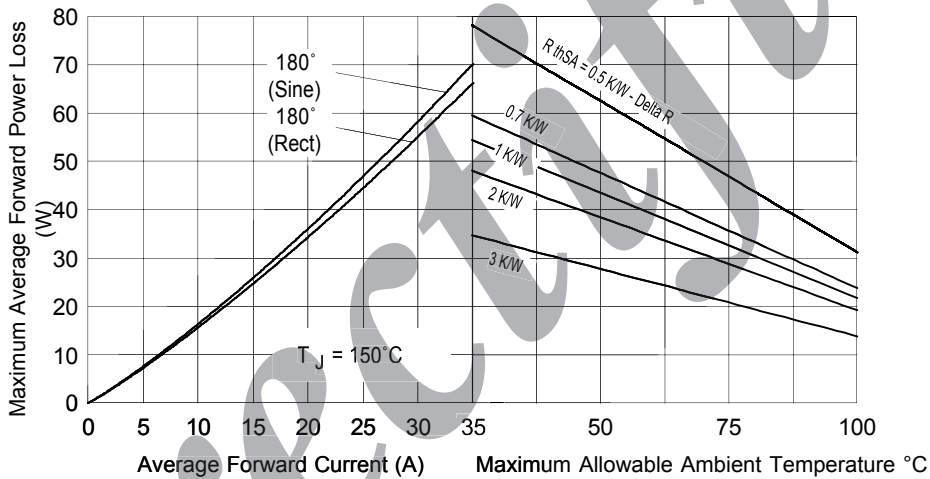


Fig. 3 - Total Power Loss Characteristics

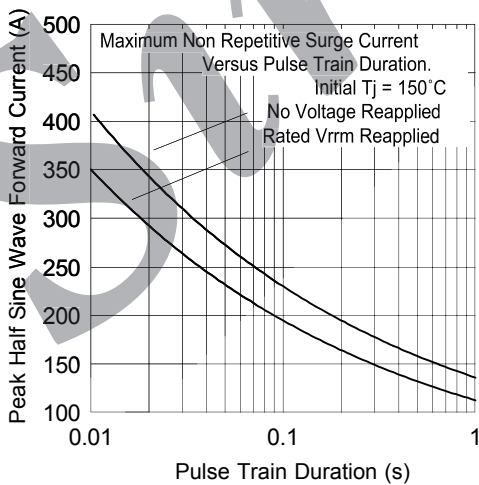


Fig. 4 - Maximum Non-Repetitive Surge Current

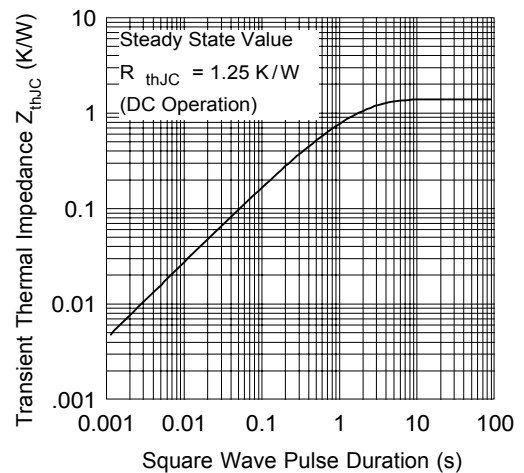


Fig. 5 - Thermal Impedance  $Z_{thJC}$  Characteristic