

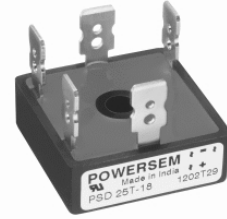
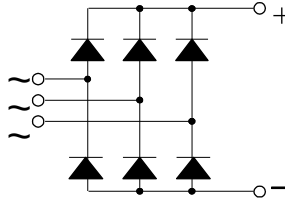
# Three Phase Rectifier Bridges

## PSD 25T PSD 25TN

$I_{dAVM} = 25 \text{ A}$   
 $V_{RRM} = 1200 \text{ V to } 1800 \text{ V}$

Preliminary Data Sheet

$V_{RSM}$ V	$V_{RRM}$ V	Type Number	
		Gold-plated terminals	Nickel-plated terminals
1200	1200	PSD 25T/12	PSD 25TN/12
1400	1400	PSD 25T/14	PSD 25TN/14
1600	1600	PSD 25T/16	PSD 25TN/16
1800	1800	PSD 25T/18	PSD 25TN/18



Symbol	Test Conditions	Maximum Ratings
$I_{dAVM}$	$T_c = 62^\circ\text{C}$ per module	25 A
$I_{FSM}$	$T_{vj} = 45^\circ\text{C}$ , $V_R = 0 \text{ V}$ , $t = 10 \text{ ms}$ , 50 Hz, sine	380 A
	$T_{vj} = T_{vjM}$ , $V_R = 0 \text{ V}$ , $t = 10 \text{ ms}$ , 50 Hz, sine	360 A
$\int i^2 dt$	$T_{vj} = 45^\circ\text{C}$ , $V_R = 0 \text{ V}$ , $t = 10 \text{ ms}$ , 50 Hz, sine	725 A <sup>2</sup> s
$T_{vj}$		-40 ... +150 °C
$T_{vjM}$		150 °C
$T_{stg}$		-40 ... +150 °C
$V_{isol}$	50/60 Hz, RMS, $t = 1 \text{ min}$	2500 V~
	$I_{isol} \leq 1 \text{ mA}$ , $t = 1 \text{ s}$	3000 V~
$M_d$	Mounting torque (M5)	2±10% Nm
	(10-32 UNF)	18±10% lb in
Weight	typ.	20 g

### Features

- ¼" gold- or nickel-plated FASTON terminals
- Isolation voltage 3000 V~
- Mesa glass-passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 148688

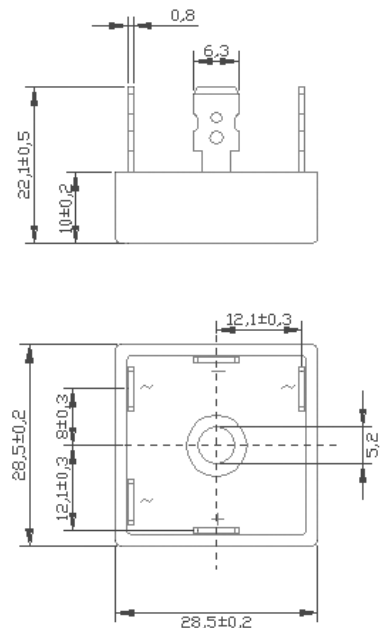
### Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverters
- Battery DC power supplies
- Field supply of DC motors

### Advantages

- Easy to mount with one screw
- Space and weight savings
- Improved temperature and power cycling capability

### Package style and outline



Dimensions in mm (1mm = 0.0394")

Symbol	Test Conditions	Characteristic Value
$I_R$	$V_R = V_{RRM}$ , $T_{vj} = 25^\circ\text{C}$	≤ 0.3 mA
	$V_R = V_{RRM}$ , $T_{vj} = T_{vjM}$	≤ 5.0 mA
$V_F$	$I_F = 150 \text{ A}$ , $T_{vj} = 25^\circ\text{C}$	≤ 2.2 V
$V_{TO}$	For power-loss calculations only	0.85 V
$r_T$	$T_{vj} = T_{vjM}$	12 mΩ
$R_{th(j-c)}$	per diode; DC current	9.3 K/W
	per module	1.55 K/W
$R_{th(j-s)}$	per diode; DC current	10.2 K/W
	per module	1.7 K/W
$d_s$	Creeping distance on surface	12.7 mm
$d_A$	Creeping distance on air	9.4 mm
$a$	Maximum allowable acceleration	50 m/s <sup>2</sup>

Data according to IEC 60747 refers to a single diode unless otherwise stated

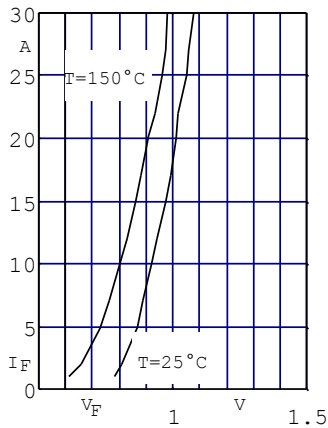


Fig. 1 Forward current versus voltage drop per diode

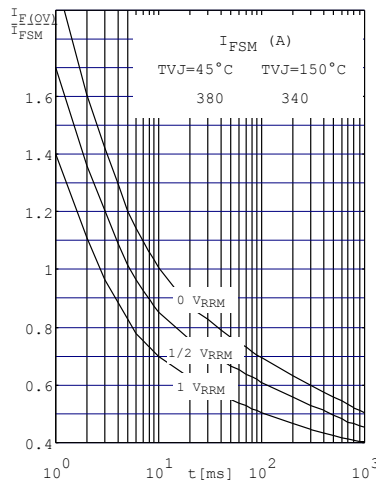


Fig. 2 Surge overload current per diode  $I_{FSM}$ : Crest value.  $t$ : duration

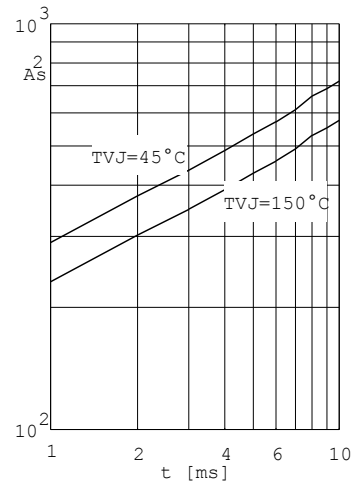


Fig. 3  $\int i^2 dt$  versus time (1-10ms) per diode (or thyristor)

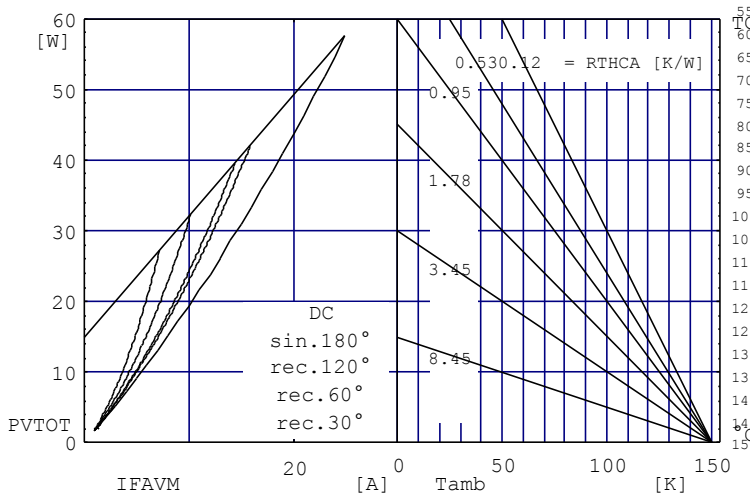


Fig. 4 Power dissipation versus direct output current and ambient temperature

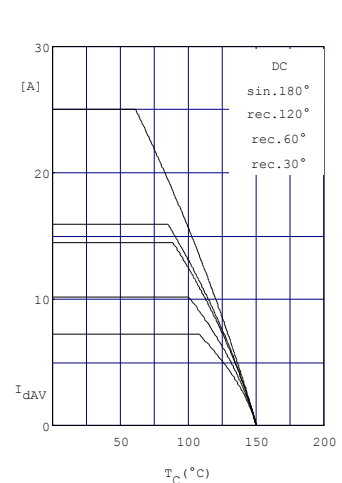


Fig. 5 Maximum forward current at case temperature

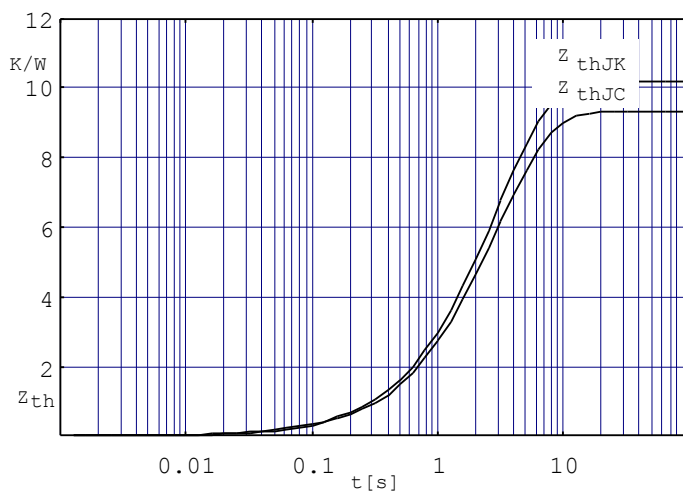


Fig. 6 Transient thermal impedance per diode (or thyristor), calculated