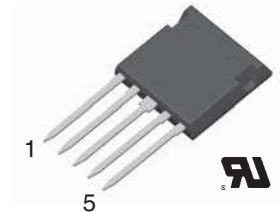
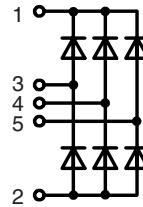


# Three Phase Rectifier Bridge

in ISOPLUS i4-PAC™

$V_{RRM} = 1600 \text{ V}$   
 $I_{D(AV)M} = 50 \text{ A}$   
 $I_{FSM} = 200 \text{ A}$



### Rectifier Bridge

Symbol	Conditions	Maximum Ratings	
$V_{RRM}$		1600	V
$I_{FAV}$	$T_C = 90^\circ\text{C}$ ; sine $180^\circ$ (per diode)	20	A
$I_{D(AV)M}$	$T_C = 90^\circ\text{C}$	50	A
$I_{FSM}$	$T_{VJ} = 25^\circ\text{C}$ ; $t = 10 \text{ ms}$ ; sine 50 Hz	200	A
$P_{tot}$	$T_C = 25^\circ\text{C}$ (per diode)	60	W

### Features

- rectifier diodes for line frequency
- ISOPLUS i4-PAC™ package
  - isolated back surface
  - UL registered E 72873
  - low coupling capacity between pins and heatsink
  - enlarged creepage towards heatsink
  - application friendly pinout
  - high reliability
  - industry standard outline

### Symbol Conditions Characteristic Values

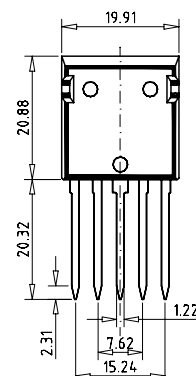
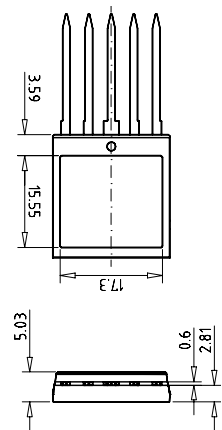
( $T_{VJ} = 25^\circ\text{C}$ , unless otherwise specified)

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$V_F$	$I_F = 20 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$	1.1	1.3	V
$I_R$	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$ $V_R = 0.8 \cdot V_{RRM}$ ; $T_{VJ} = 125^\circ\text{C}$	0.2	10	$\mu\text{A}$ mA
$R_{thJC}$ $R_{thJH}$	(per diode)	3.2	2.1	K/W K/W

### Applications

- three phase mains rectifiers

### Dimensions in mm (1 mm = 0.0394")



### Component

Symbol	Conditions	Maximum Ratings	
$T_{VJ}$		-55...+150	$^\circ\text{C}$
$T_{stg}$		-55...+125	$^\circ\text{C}$
$V_{ISOL}$	$I_{ISOL} \leq 1 \text{ mA}$ ; 50/60 Hz	2500	V~
$F_C$	mounting force with clip	20...120	N

### Symbol Conditions Characteristic Values

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$C_p$	coupling capacity between shorted pins and mounting tab in the case		40	pF
$d_S, d_A$	pin - pin	1.7		mm
$d_S, d_A$	pin - backside metal	5.5		mm
<b>Weight</b>			9	g

Data according to IEC 60747 and refer to a single diode unless otherwise stated.

IXYS reserves the right to change limits, test conditions and dimensions.

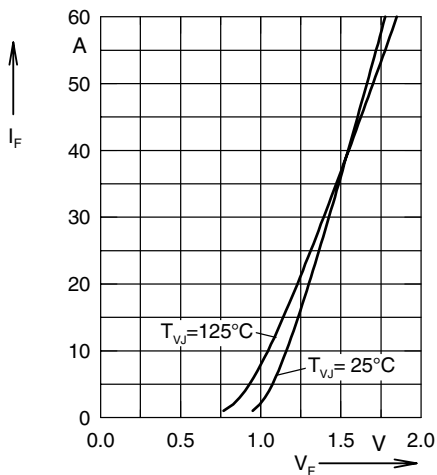


Fig. 1 Forward current vs. voltage drop per leg

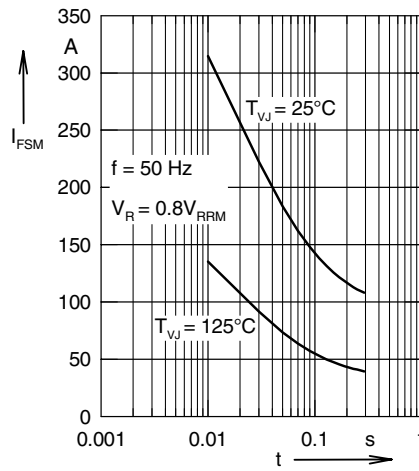


Fig. 2 Surge overload current

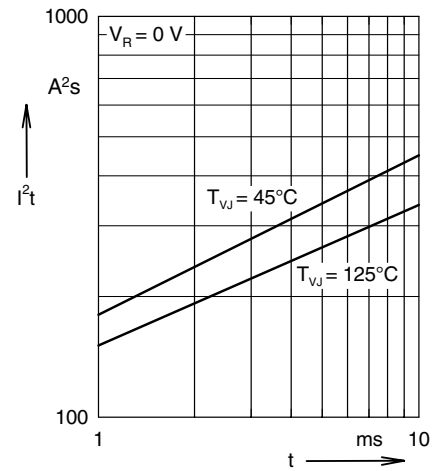


Fig. 3 t versus time per diode

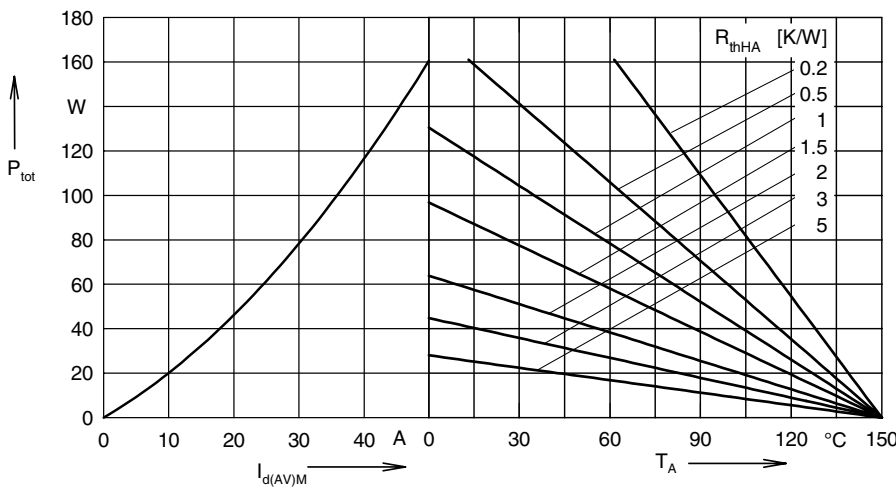


Fig. 4 Power dissipation versus direct output current and ambient temperature; sinusoidal 120°

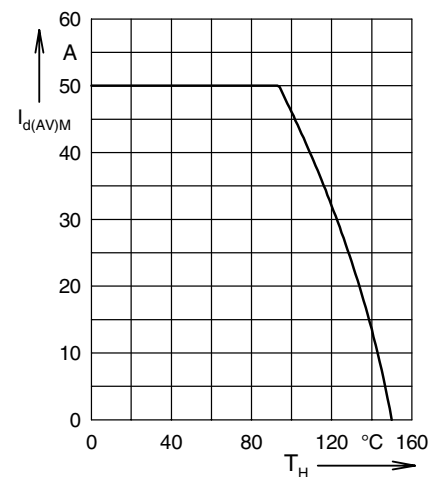


Fig. 5 Max. forward current vs. case temperature  $I_{d(AVM)} = f(T_{case})$

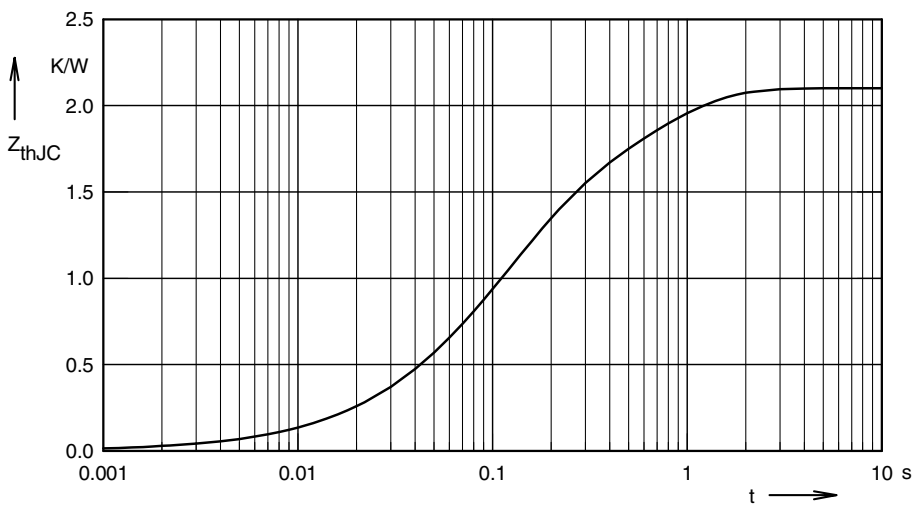


Fig. 6 Transient thermal impedance junction to case  $Z_{thjc}$

Constants for  $Z_{thjc}$  calculation

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	1.159	0.1015
2	0.1286	0.1026
3	0.2651	0.4919
4	0.5473	0.62