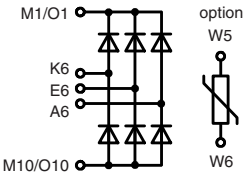
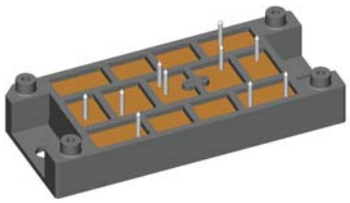
Three Phase Rectifier Bridge

I_{dAVM} = 121 / 157 A
V_{RRM} = 1200-1600 V

V_{RRM} V	Type V	V_{RRM} V	Type V
1200	VUO 120-12 NO1	1600	VUO 120-16 NO1
1200	VUO 155-12 NO1	1600	VUO 155-16 NO1





pin configuration see outlines

Symbol	Conditions		Maximum Ratings VUO 120	VUO155	
V_{RRM}			1200/1600	1200/1600	V
I_{dAVM}	T_C = 75°C, sinusoidal 120°		121	157	A
I_{FSM}	T_{VJ} = 45°C,	t = 10 ms, V_R = 0 V	650	850	A
	T_{VJ} = 150°C,	t = 10 ms, V_R = 0 V	580	760	A
I^2t	T_{VJ} = 45°C,	t = 10 ms, V_R = 0 V	2110	3610	A
	T_{VJ} = 150°C,	t = 10 ms, V_R = 0V	1680	2880	A
P_{tot}	T_C = 25°C per diode		150	190	W
T_{VJ}			-40...+150		°C
T_{VJM}			150		°C
T_{stg}			-40...+125		°C
V_{ISOL}	50/60 Hz	t = 1 min	3000		V~
	I_{ISOL} ≤ 1 mA	t = 1 s	3600		V~
M_d	Mounting torque	(M5)	2-2.5		Nm
		(10-32 unf)	18-22		lb.in.
d_S	Creep distance on surface		12.7		mm
d_A	Strike distance in air		9.4		mm
a	Maximum allowable acceleration		50		m/s^2
Weight	typ.		80		g

Symbol	Conditions			Characteristic Values (T_{VJ} = 25°C, unless otherwise specified) min.	typ.	max.	
I_R	$V_R = V_{RRM}$,	T_{VJ} = 25°C				0.3	mA
	$V_R = V_{RRM}$,	T_{VJ} = 150°C				5	mA
V_F	I_F = 150 A,	T_{VJ} = 25°C	VUO 120			1.59	V
			VUO 155			1.49	V
V_{F0}	For power-loss calculations only		VUO 120			0.80	V
			VUO 155			0.75	V
r_T	T_{VJ} = 150°C		VUO 120			6.1	mΩ
			VUO 155			4.6	mΩ
R_{thJC}	per diode		VUO 120			1.0	K/W
			VUO 155			0.8	K/W
R_{thJH}			VUO 120			1.3	K/W
			VUO 155			1.1	K/W
R_{25} (option)	Siemens S 891/2,2/+9					2.2	kΩ

Features

- Soldering connections for PCB mounting
- Isolation voltage 3600 V~
- Convenient package outline
- UL registered E 72873
- Case and potting UL94 V-0

Applications

- Input Rectifier for Drive Inverters

Advantages

- Easy to mount with two screws
- Suitable for wave soldering
- High temperature and power cycling capability

Type	Recommended replacement
VUO120-12NO1	VUO120-12NO2T
VUO120-16NO1	VUO120-16NO2T
VUO155-12NO1	VUO120-12NO2T
VUO155-16NO1	VUO120-16NO2T

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

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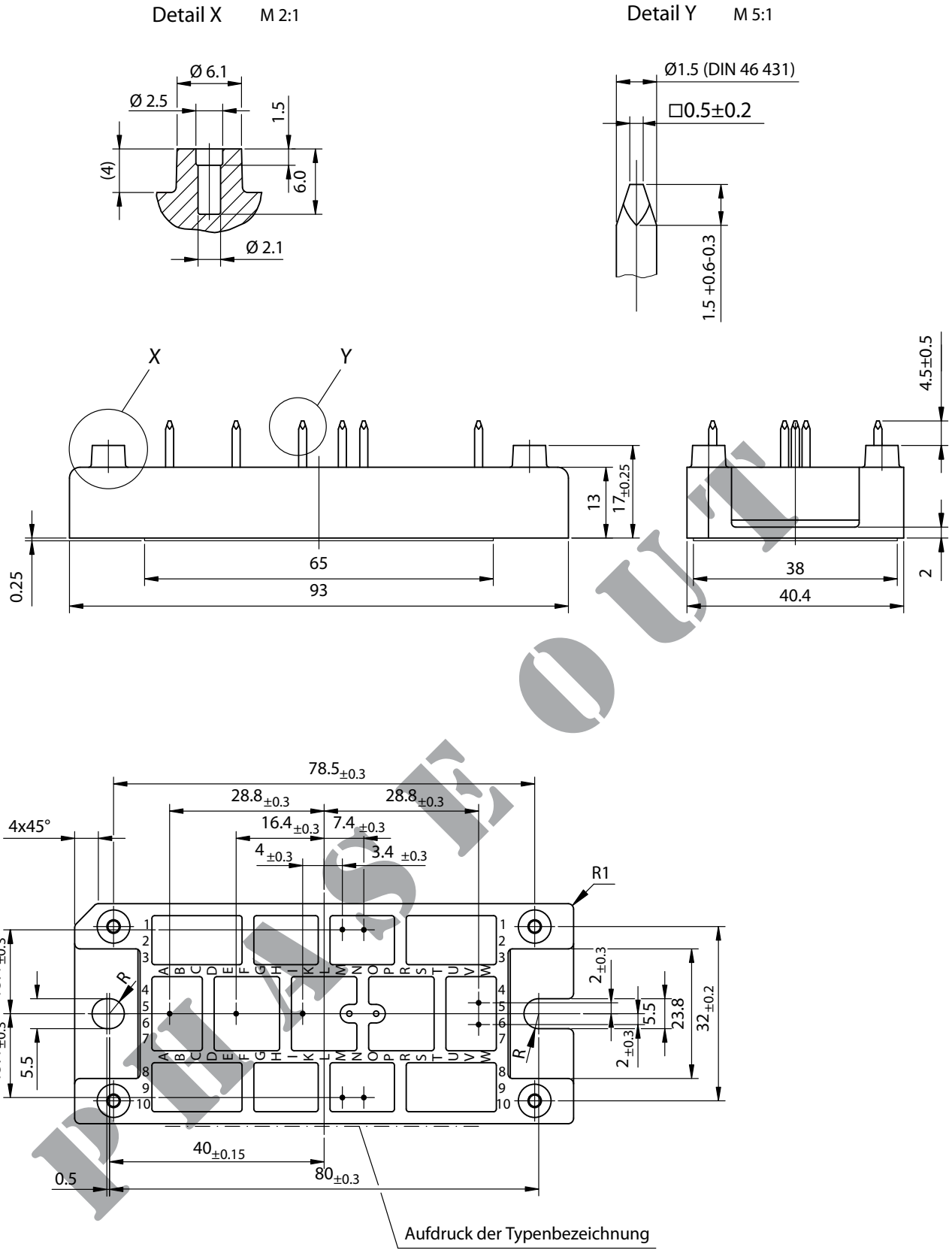
Dimensions in mm (1 mm = 0.0394")



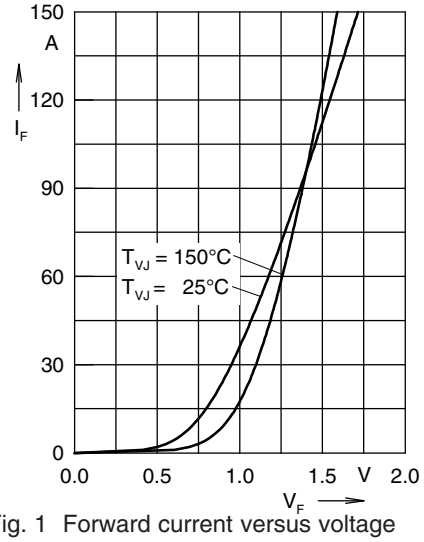


Fig. 1 Forward current versus voltage drop per diode

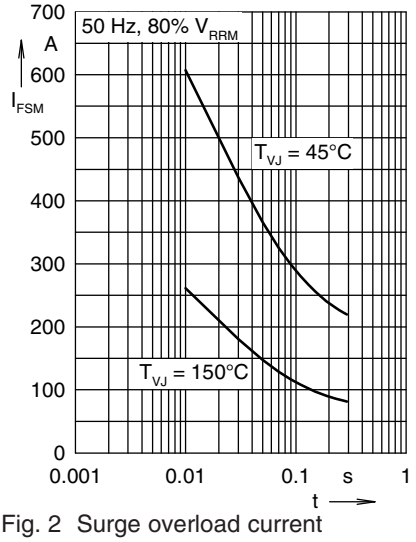


Fig. 2 Surge overload current

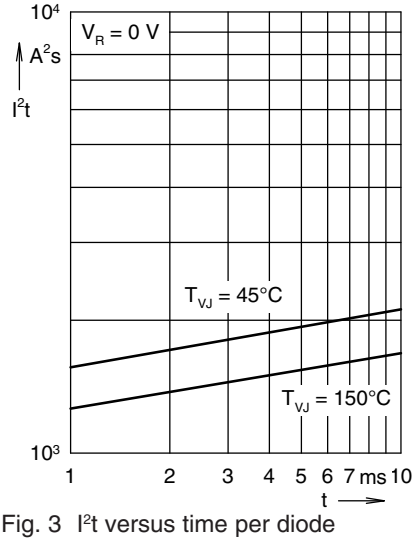


Fig. 3 I^2t versus time per diode

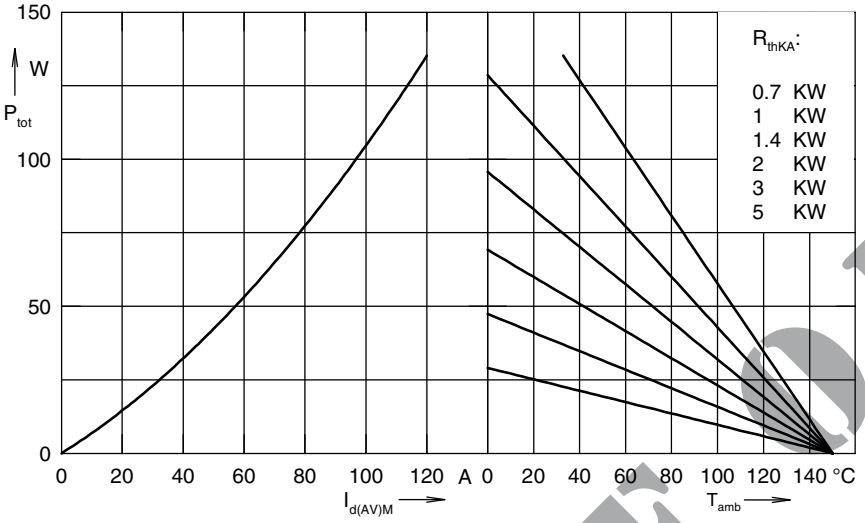


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 120°

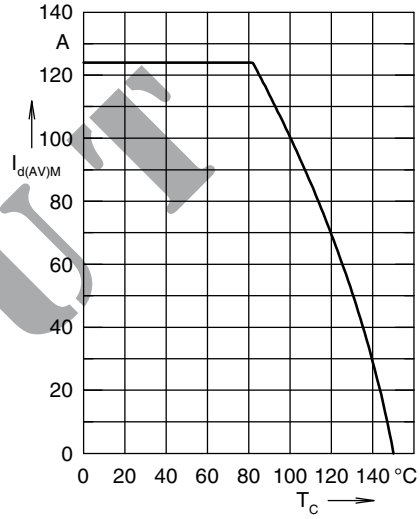


Fig. 5 Max. forward current versus case temperature

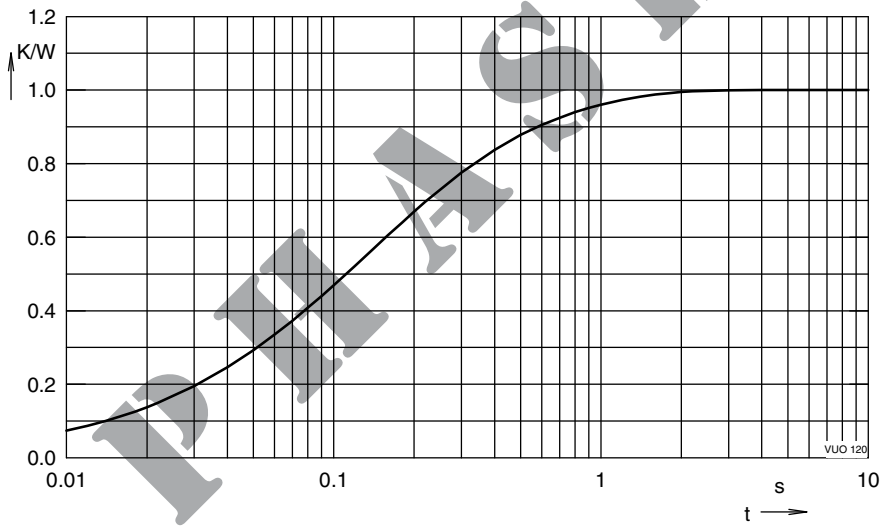


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.003521	0.01
2	0.1479	0.05
3	0.5599	0.14
4	0.2887	0.5

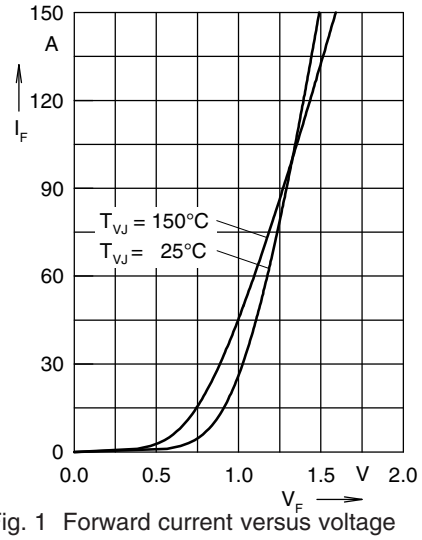
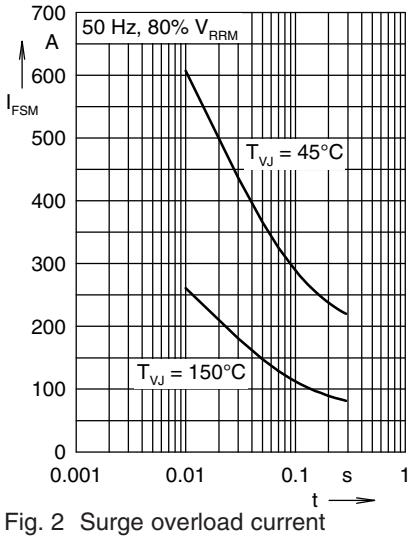


Fig. 1 Forward current versus voltage drop per diode



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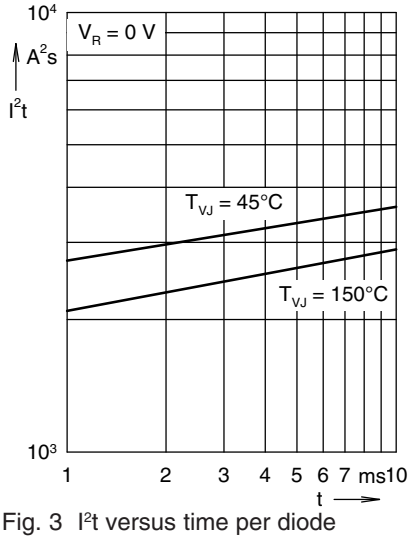

Fig. 3 I^2t versus time per diode

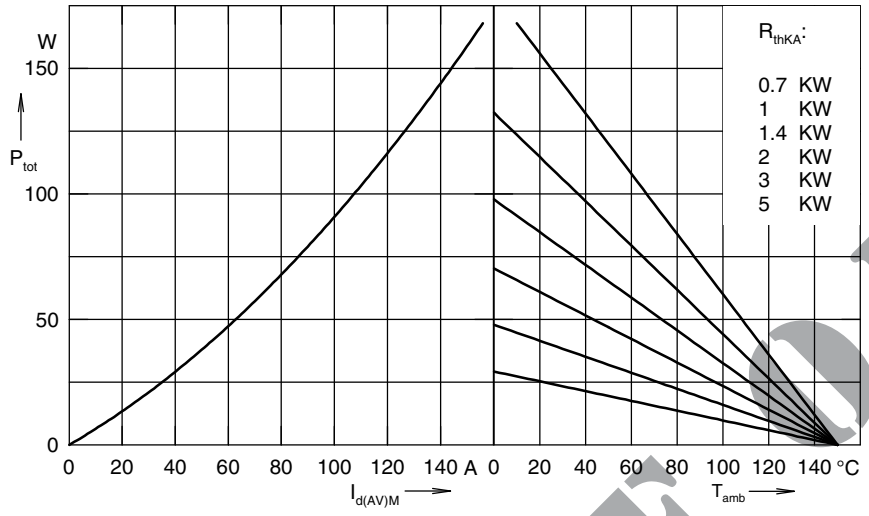

Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 120°

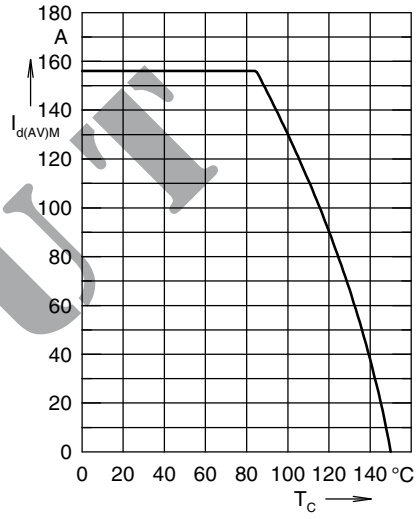

Fig. 5 Max. forward current versus case temperature

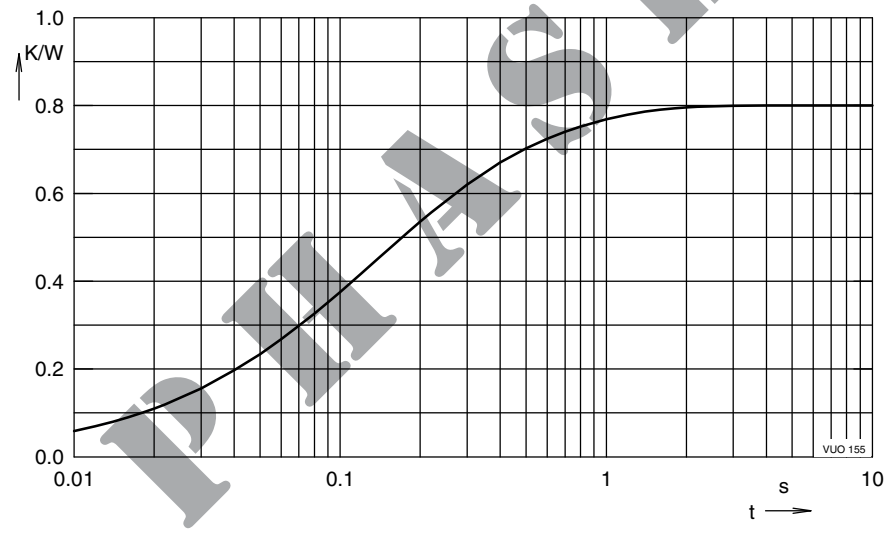

Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.002817	0.01
2	0.1183	0.05
3	0.4479	0.14
4	0.231	0.5