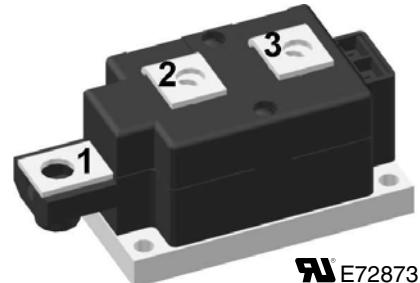
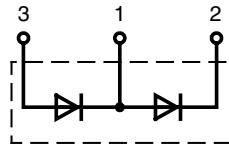


High Power Diode Modules

I_{FRMS} = 2x 520 A
I_{FAVM} = 2x 310 A
V_{RRM} = 1200-2200 V

V _{RSM} V	V _{RRM} V	Type
1300	1200	MDD 312-12N1
1500	1400	MDD 312-14N1
1700	1600	MDD 312-16N1
1900	1800	MDD 312-18N1
2100	2000	MDD 312-20N1
2300	2200	MDD 312-22N1



E72873

Symbol	Conditions	Maximum Ratings		
I _{FRMS}	T _{VJ} = T _{VJM}	520	A	
I _{FAVM}	180° sine	310	A	
I _{FSM}	T _{VJ} = 45°C; t = 10 ms (50 Hz)	10500	A	
	V _R = 0 t = 8.3 ms (60 Hz)	11200	A	
	T _{VJ} = T _{VJM} ; t = 10 ms (50 Hz)	9200	A	
	V _R = 0 t = 8.3 ms (60 Hz)	9800	A	
I ² t	T _{VJ} = 45°C; t = 10 ms (50 Hz)	551 000	A ² s	
	V _R = 0 t = 8.3 ms (60 Hz)	527 000	A ² s	
	T _{VJ} = T _{VJM} ; t = 10 ms (50 Hz)	423 000	A ² s	
	V _R = 0 t = 8.3 ms (60 Hz)	403 000	A ² s	
T _{VJ}		-40...+150	°C	
T _{VJM}		150	°C	
T _{stg}		-40...+125	°C	
V _{ISOL}	50/60 Hz, RMS t = 1 min	3000	V~	
	I _{ISOL} ≤ 1 mA t = 1 s	3600	V~	
M _d	Mounting torque (M6)	4.5 - 7	Nm	
	Terminal connection torque (M8)	11-13	Nm	
Weight	Typical including screws	750	g	

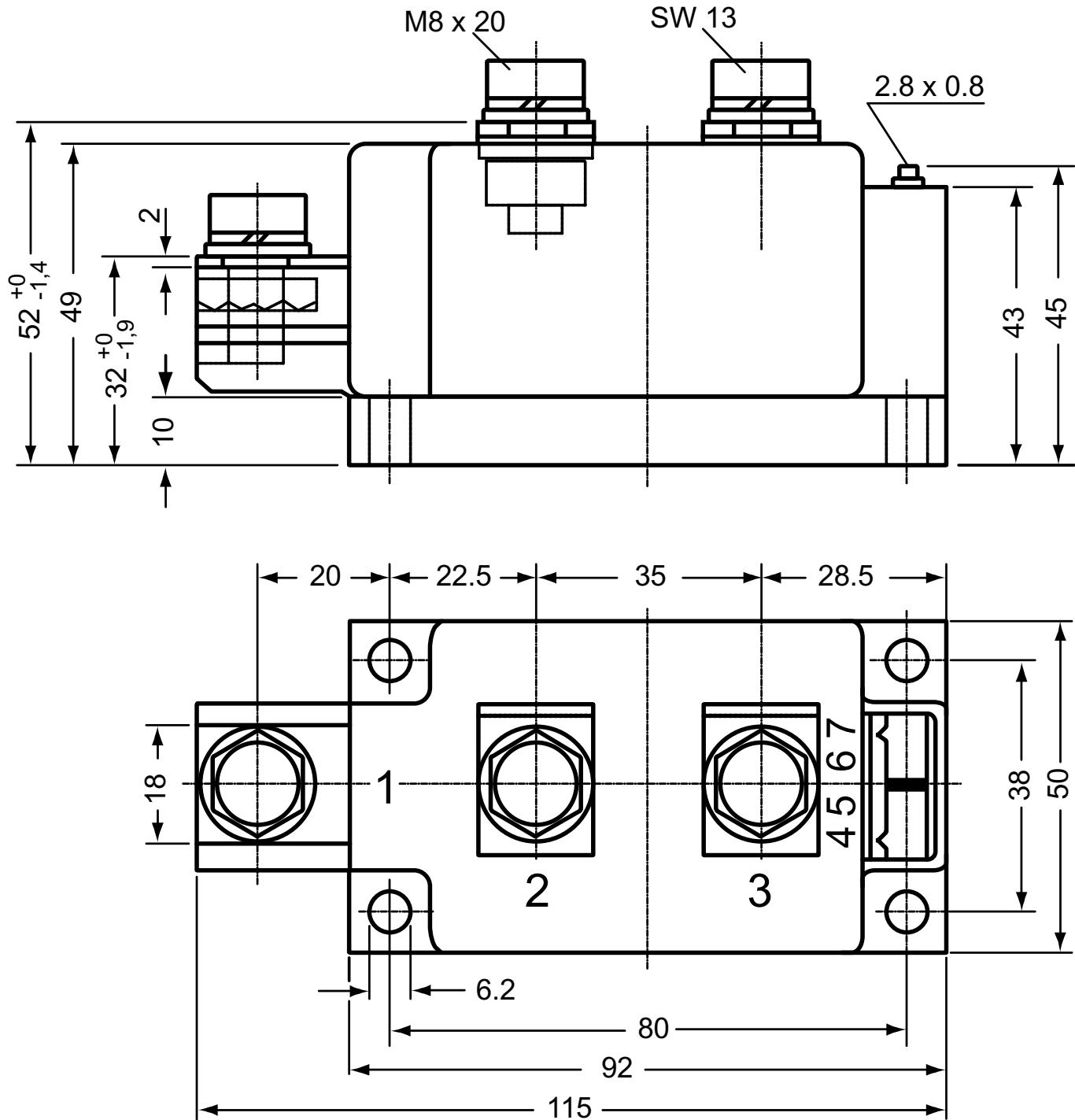
Symbol	Conditions	Characteristics Values		
I _{RRM}	V _R = V _{RRM} T _{VJ} = T _{VJM}	30	mA	
V _F	I _F = 600 A; T _{VJ} = 25°C	1.32	V	
V _{TO}	For power-loss calculations only	0.8	V	
r _t	T _{VJ} = T _{VJM}	0.6	mΩ	
R _{thJC}	per diode; DC current	0.12	K/W	
	per module	0.06	K/W	
R _{thJK}	per diode; DC current	0.16	K/W	
	per module	0.08	K/W	
Q _S	I _F = 400 A; -di/dt = 50 A/μs; T _{VJ} = 125°C	700	μC	
I _{RM}		260	A	
d _s	Creeping distance on surface	12.7	mm	
d _A	Creepage distance in air	9.6	mm	
a	Maximum allowable acceleration	50	m/s ²	

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.

20130813g

Dimensions in mm (1 mm = 0.0394")



Optional accessories for modules

Keyed gate/cathode twin plugs with wire length = 350 mm, gate = white, cathode = red

Type ZY 180L (L = Left for pin pair 4/5)

Type ZY 180R (R = Right for pin pair 6/7)

} UL 758, style 3751

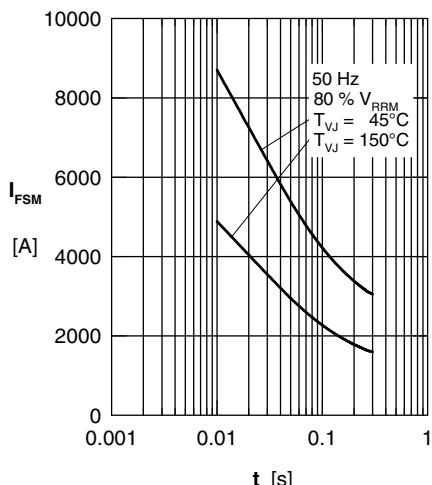


Fig. 1 Surge overload current
 I_{FSM} : Crest value, t: duration

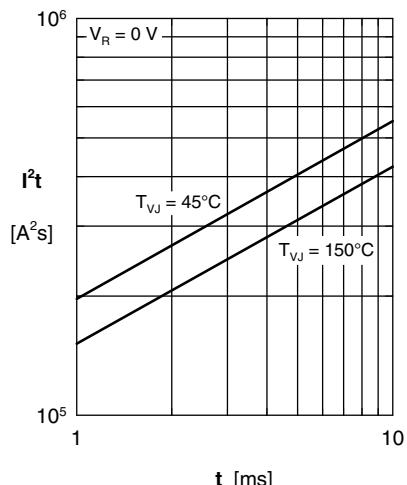


Fig. 2 I^2t versus time (1-10 ms)

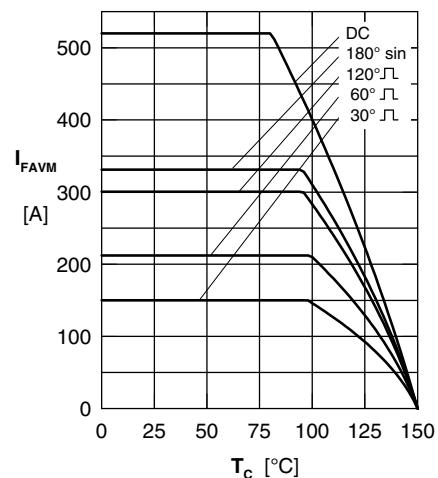


Fig. 3 Maximum forward current at case temperature

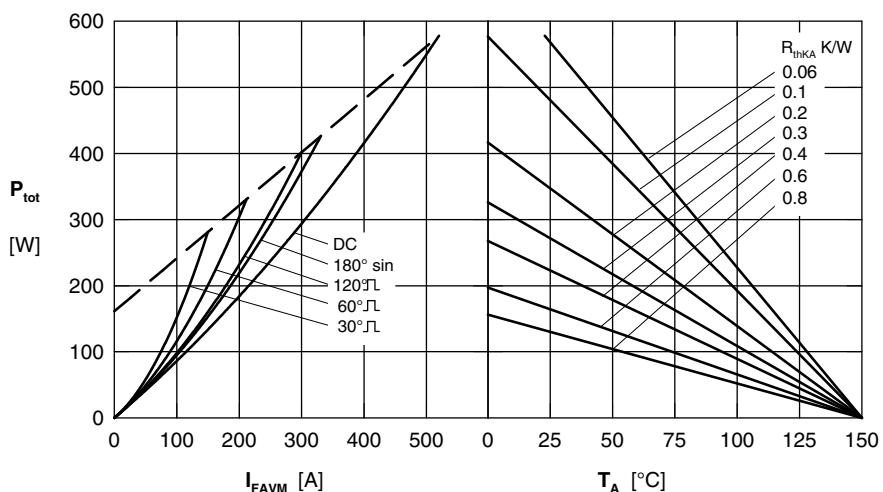


Fig. 4 Power dissipation vs. forward current & ambient temperature (per diode)

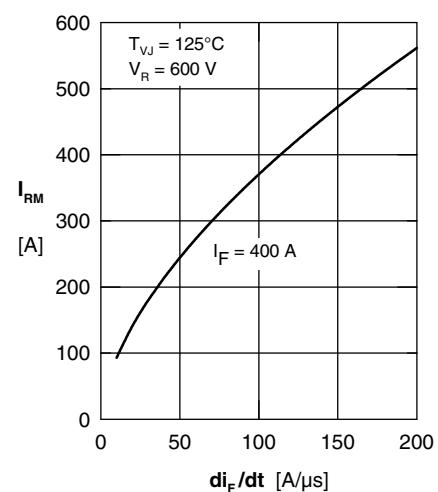


Fig. 5 Typ. peak reverse current

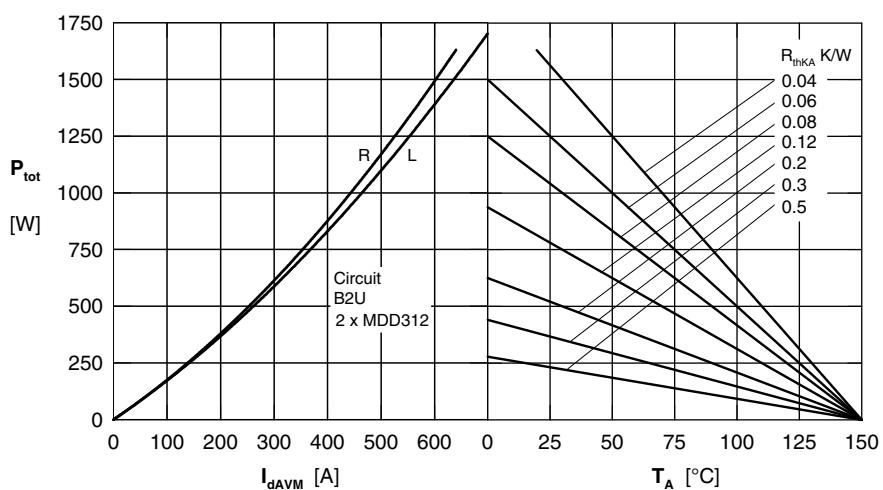


Fig. 6 Single phase rectifier bridge: Power dissipation vs. direct output current and ambient temperature R = resistive load, L = inductive load

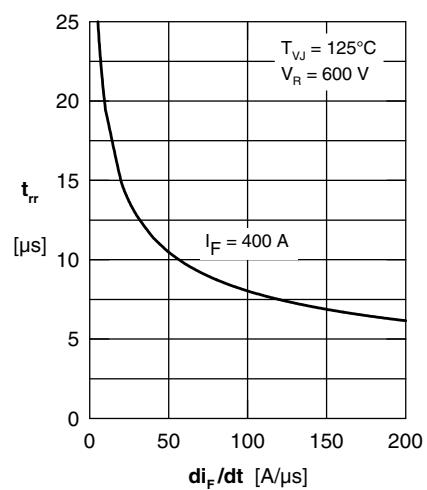


Fig. 7 Typ. recovery time t_{rr} versus $-di_F/dt$

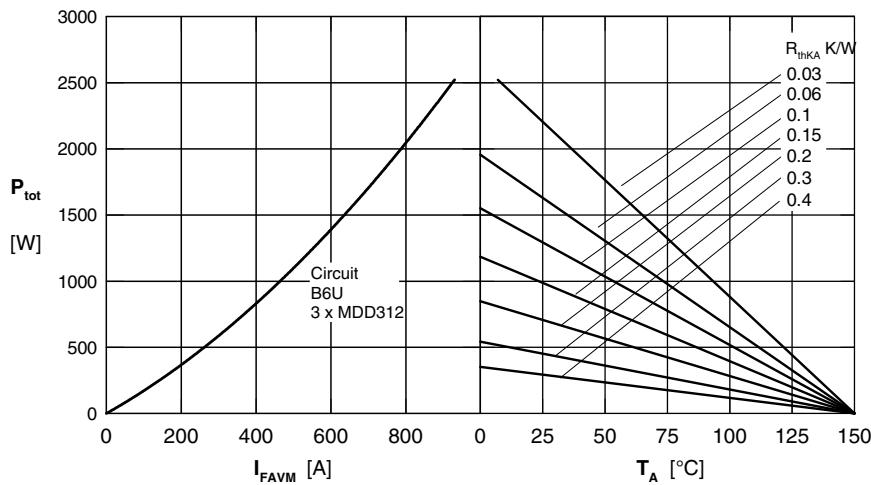


Fig. 8 Three phase rectifier bridge: Power dissipation vs. direct output current & ambient temperature

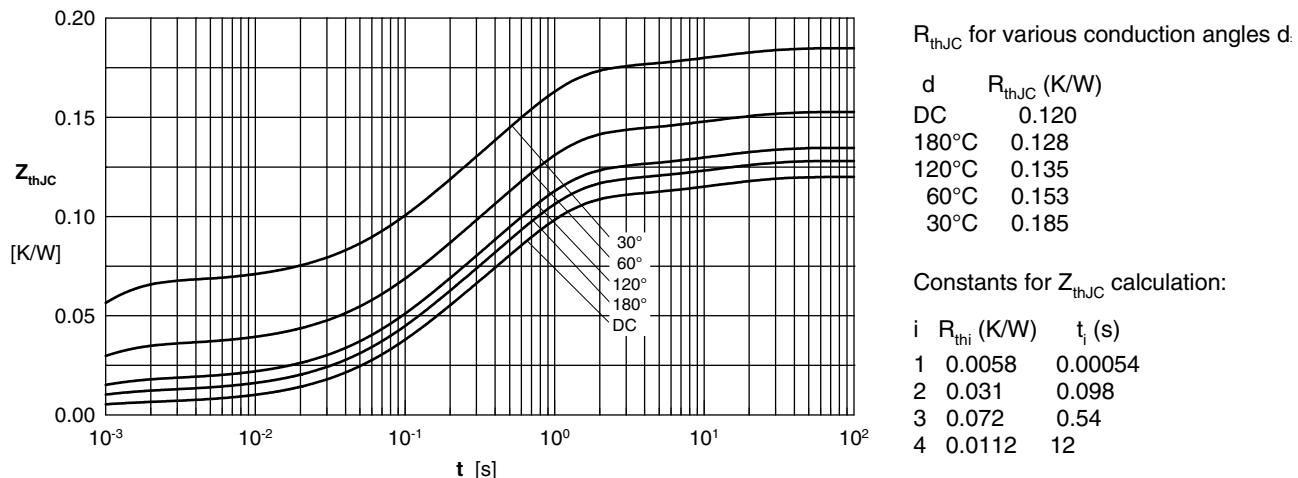


Fig. 9 Transient thermal impedance junction to case (per diode)

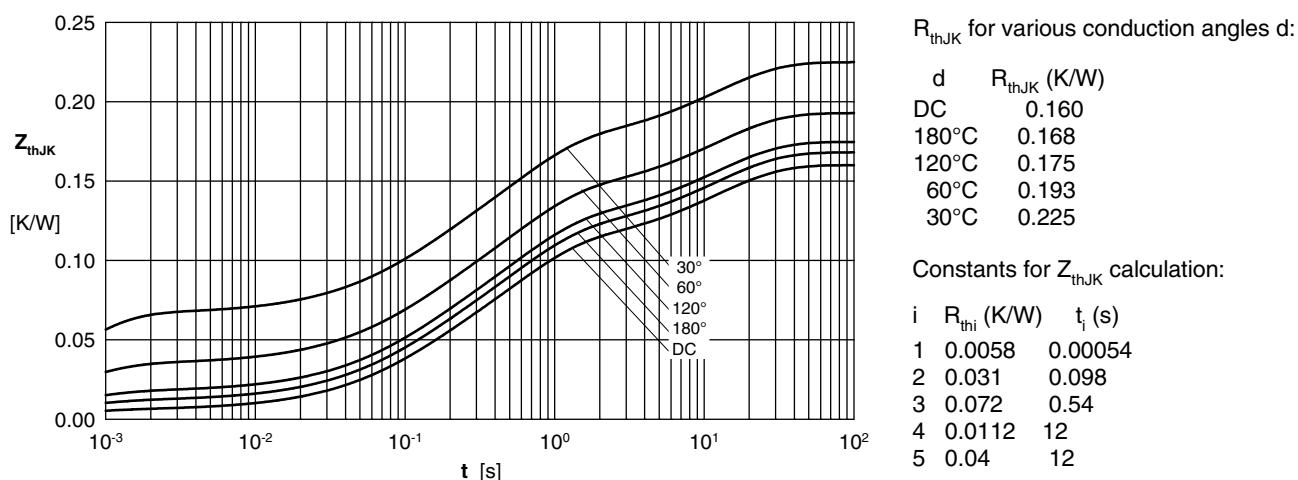


Fig. 10 Transient thermal impedance junction to heatsink (per diode)