Symbol	Conditions		Characteristic Values typ.	max.	
I_{RRM}, I_{DRM}	V_R / V_D = V_{RRM} / V_{DRM}	T_{VJ} = T_{VJM}		5	mA
V_T, V_F	I_T / I_F = 300 A	T_{VJ} = 25°C		1.5	V
V_{T0}	For power-loss calculations only			0.8	V
r_t		T_{VJ} = T_{VJM}		2.4	mΩ
V_{GT}	V_D = 6 V	T_{VJ} = 25°C		2.5	V
		T_{VJ} = -40°C		2.6	V
I_{GT}	V_D = 6 V	T_{VJ} = 25°C		150	mA
		T_{VJ} = -40°C		200	mA
V_{GD}	V_D = $^2/_3$ V_{DRM};	T_{VJ} = T_{VJM}		0.2	V
I_{GD}				10	mA
I_L	t_p = 10 µs; V_D = 6 V I_G = 0.45 A; di_G/dt = 0.45 A/µs	T_{VJ} = 25°C		450	mA
I_H	V_D = 6 V; R_{GK} = ∞;	T_{VJ} = 25°C		200	mA
t_{gd}	V_D = ½V_{DRM} I_G = 0.45 A; di_G/dt = 0.45 A/µs	T_{VJ} = 25°C		2	µs
t_q	V_D = $^2/_3$ V_{DRM} dv/dt = 20 V/µs; -di/dt = 10 A/µs I_T = 150 A; V_R = 100 V; t_p = 200 µs	T_{VJ} = T_{VJM}	185		µs
Q_S	I_T / I_F = 50 A; -di/dt = 6 A/µs	T_{VJ} = T_{VJM}		170	µC
I_{RM}				45	A
R_{thJC}	per thyristor; DC current	other values see Fig. 8/9		0.22	K/W
	per module			0.11	K/W
R_{thJK}	per thyristor; DC current			0.42	K/W
	per module			0.21	K/W
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

Optional accessories for modules

Coded gate/cathode twin plugs with wire length = 350 mm, gate = yellow, cathode = red
Type **ZY 200L** (L = Left for pin pair 4/5) } UL 758, style 1385,
Type **ZY 200R** (R = Right for pin pair 6/7) } CSA class 5851, guide 460-1-1

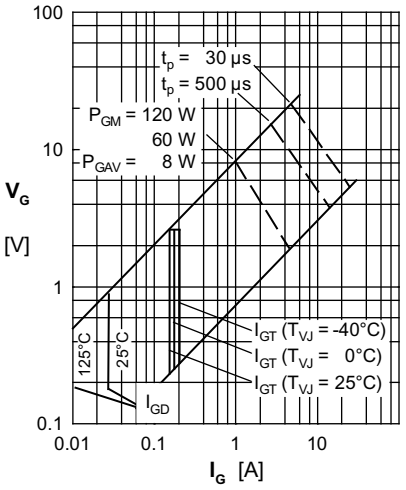


Fig. 1 Gate trigger characteristics

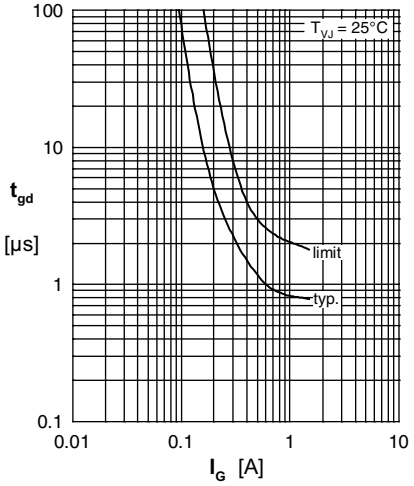
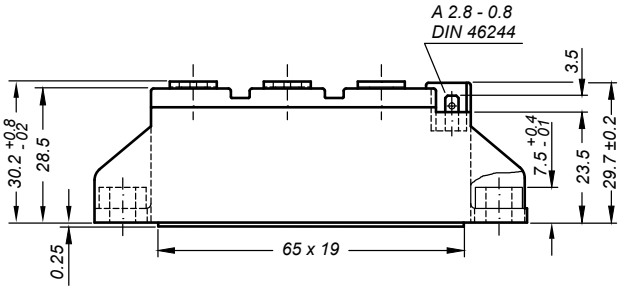


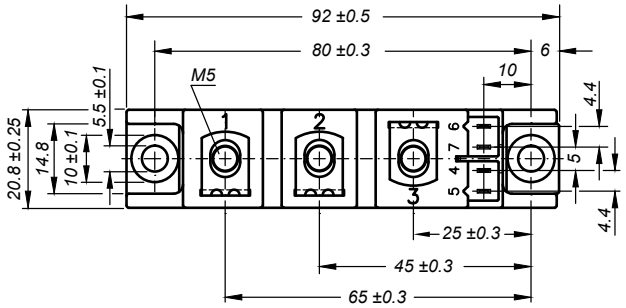
Fig. 2 Gate trigger delay time

Dimensions in mm (1 mm = 0.0394“)

MCC... Version 1B

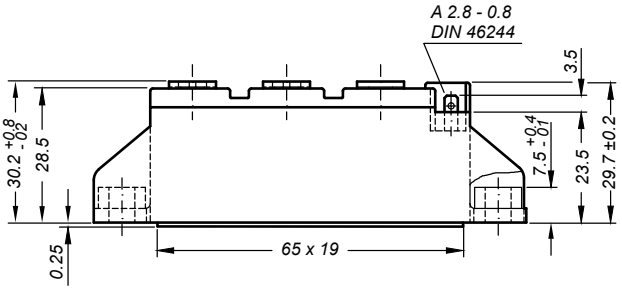


General tolerance: DIN ISO 2768 class „c“

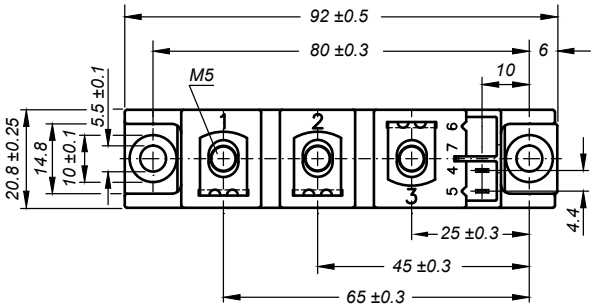


Optional accessories: Keyed gate/cathode twin plugs
Wire length: 350 mm, gate = yellow, cathode = red
UL 758, style 1385, CSA class 5851, guide 460-1-1
*Type **ZY 200L** (L = Left for pin pair 4/5)*
*Type **ZY 200R** (R = Right for pin pair 6/7)*

MCD... Version 1B

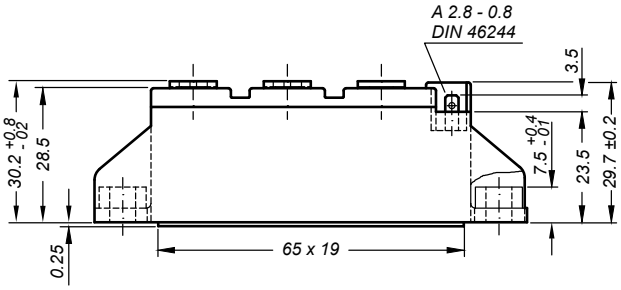


General tolerance: DIN ISO 2768 class „c“

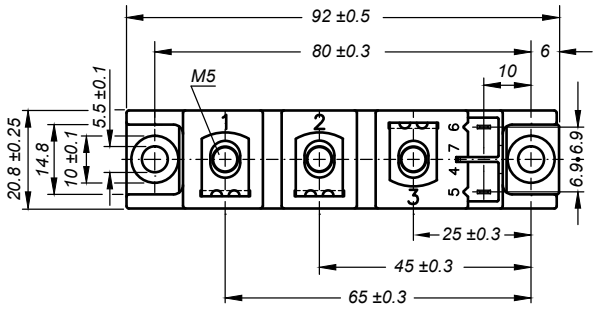


Optional accessories: Keyed gate/cathode twin plugs
Wire length: 350 mm, gate = yellow, cathode = red
UL 758, style 1385, CSA class 5851, guide 460-1-1
*Type **ZY 200L** (L = Left for pin pair 4/5)*

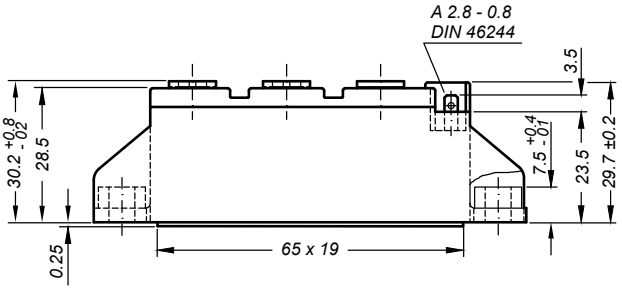
MCC... Version 8B



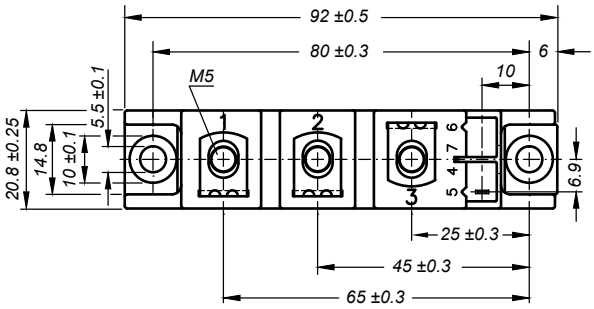
General tolerance: DIN ISO 2768 class „c“



MCD... Version 8B



General tolerance: DIN ISO 2768 class „c“



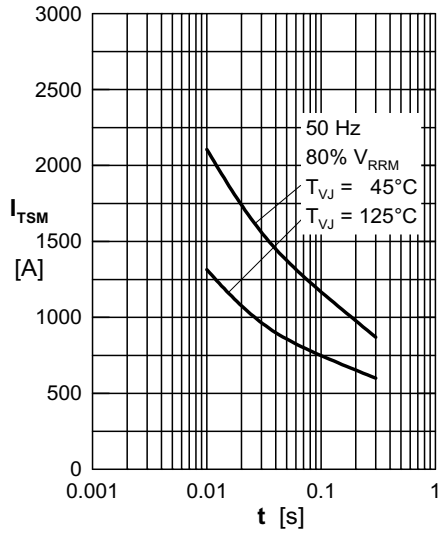


Fig. 3 Surge overload current I_{TSM}, I_{FSM}: Crest value, t: duration

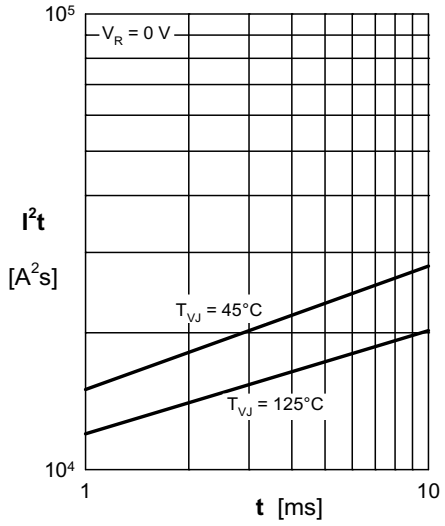


Fig. 4 I^2t versus time (1-10 ms)

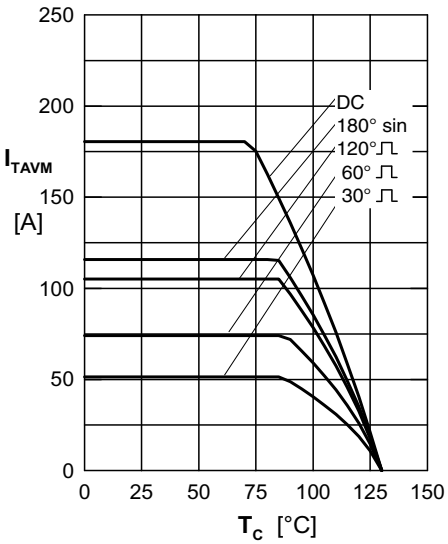


Fig. 4a Maximum forward current at case temperature

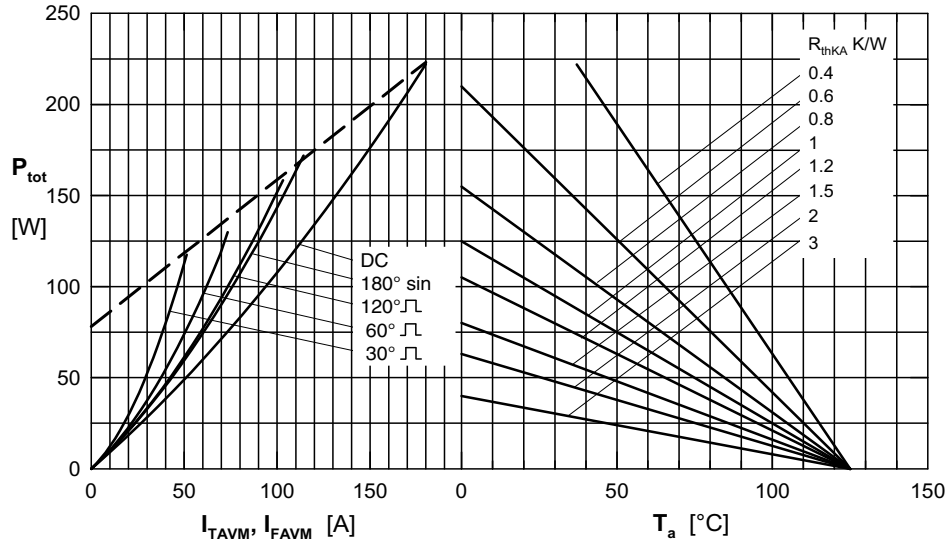


Fig. 5 Power dissipation versus on-state current & ambient temperature (per thyristor or diode)

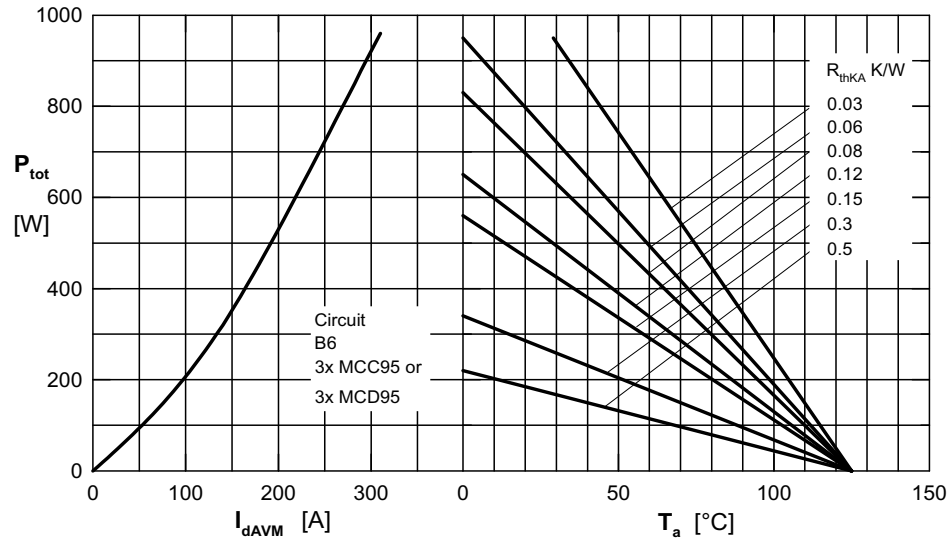


Fig. 6 Three phase rectifier bridge: Power dissipation vs. direct output current and ambient temperature

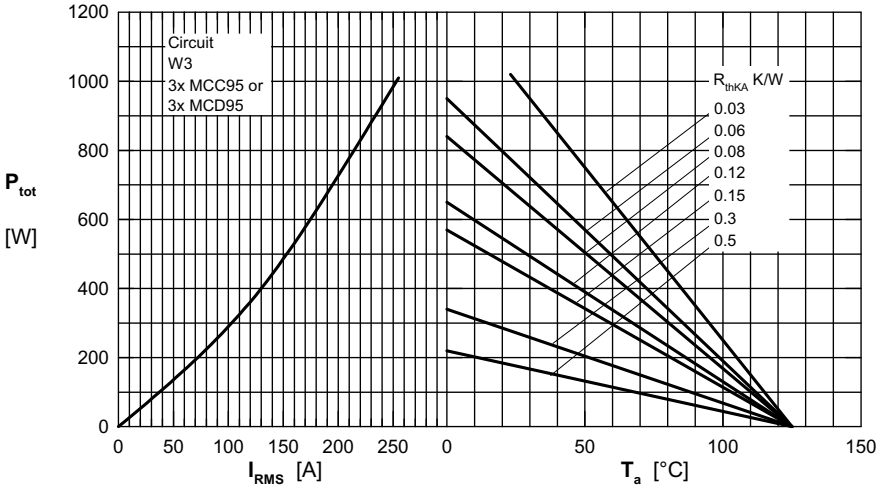


Fig. 7 Three phase AC-controller: Power dissipation versus RMS output current and ambient temperature

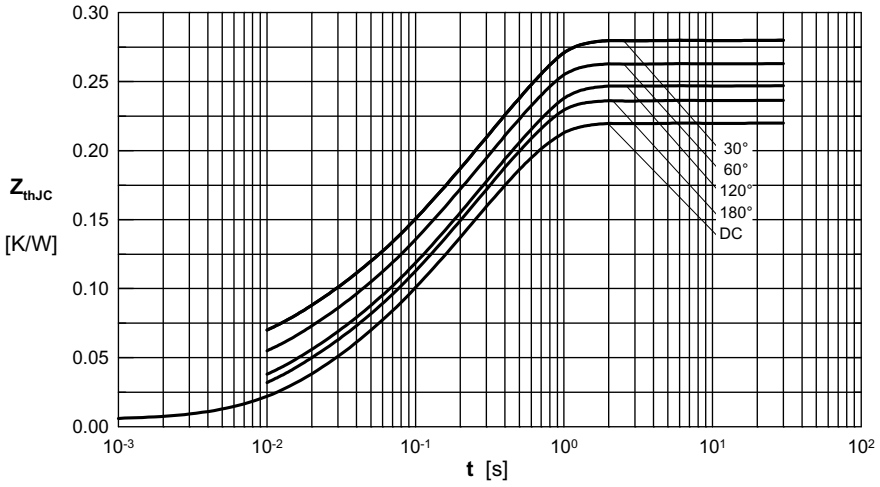


Fig. 8 Transient thermal impedance junction to case (per thyristor or diode)

R_{thJC} for various conduction angles d:

d	R_{thJC} (K/W)
DC	0.22
180°	0.23
120°	0.25
60°	0.27
30°	0.28

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0066	0.0019
2	0.0678	0.0477
3	0.1456	0.344

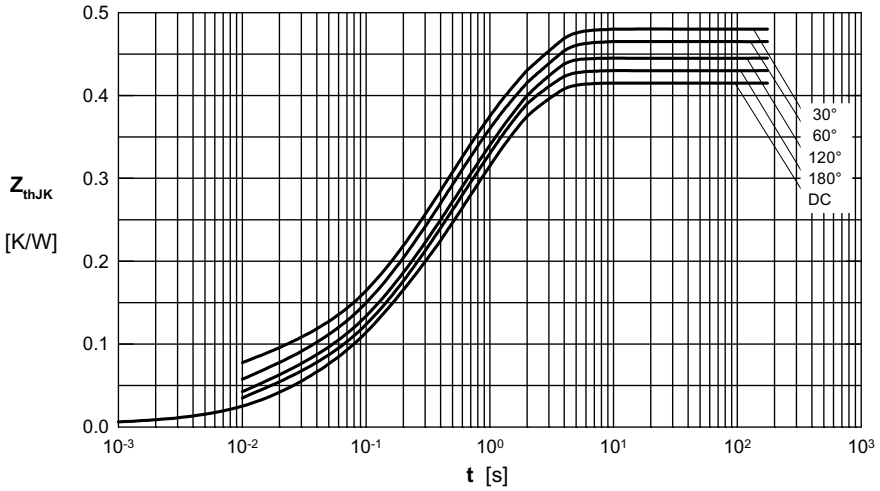


Fig. 9 Transient thermal impedance junction to heatsink (per thyristor or diode)

R_{thJK} for various conduction angles d:

d	R_{thJK} (K/W)
DC	0.42
180°	0.43
120°	0.45
60°	0.47
30°	0.48

Constants for Z_{thJK} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0066	0.0019
2	0.0678	0.0477
3	0.1456	0.344
4	0.2	1.32