Diodes

Symbol	Conditions	Maximum Ratings	
I_{F25}	T_C = 25°C	140	A
I_{F80}	T_C = 80°C	88	A

Symbol	Conditions	Characteristic Values min.	typ.	max.	
V_F	I_F = 100 A; V_{GE} = 0 V; T_{VJ} = 25°C		1.9	2.1	V
	T_{VJ} = 125°C		1.4		V
I_{RM}	I_F = 60 A; di_F/dt = -500 A/µs; T_{VJ} = 125°C		28		A
t_{rr}	V_R = 300 V; V_{GE} = 0 V		100		ns
R_{thJC}	(per diode)			0.61	K/W

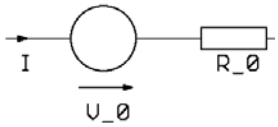
Module

Symbol	Conditions	Maximum Ratings	
T_{VJ}	operating	-40...+125	°C
T_{JM}		+150	°C
T_{stg}		-40...+125	°C
V_{ISOL}	I_{ISOL} ≤ 1 mA; 50/60 Hz	2500	V~
M_d	Mounting torque (M5)	3 - 6	Nm

Symbol	Conditions	Characteristic Values min.	typ.	max.	
$R_{pin-chip}$			1.8		mΩ
d_S	Creepage distance on surface	10			mm
d_A	Strike distance in air	10			mm
R_{thCH}	with heatsink compound		0.01		K/W
Weight			300		g

Equivalent Circuits for Simulation

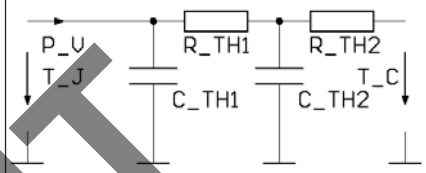
Conduction



IGBT (typ. at V_{GE} = 15 V; T_J = 125°C)
V_0 = 1.1 V; R_0 = 12 mΩ

Free Wheeling Diode (typ. at T_J = 125°C)
V_0 = 1.15 V; R_0 = 2.5 mΩ

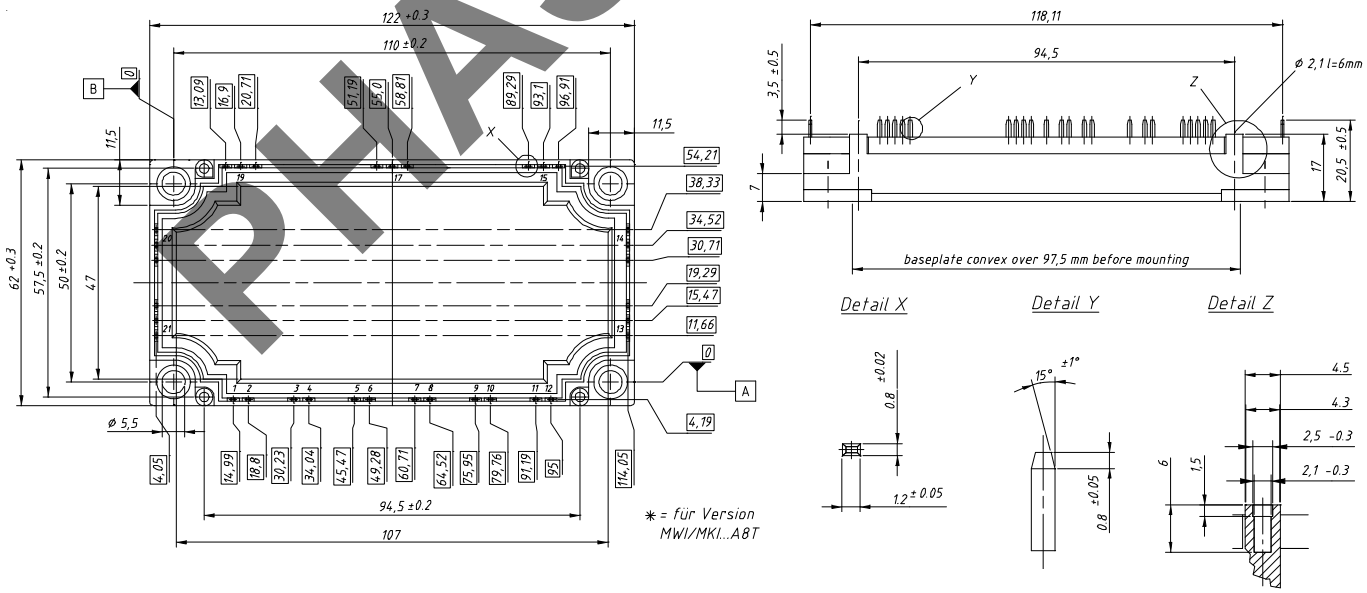
Thermal Response



IGBT (typ.)
C_{th1} = 0.232 J/K; R_{th1} = 0.223 K/W
C_{th2} = 1.504 J/K; R_{th2} = 0.077 K/W

Free Wheeling Diode (typ.)
C_{th1} = 0.138 J/K; R_{th1} = 0.48 K/W
C_{th2} = 0.957 J/K; R_{th2} = 0.13 K/W

Dimensions in mm (1 mm = 0.0394")



PHASE-OUT

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

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