

STANDARD DIODE MODULE | 整流二极管模块

Features

- Base & chip insulation AC voltage 2500V
- International standard packing
- Excellent temperature feature
- $\geq 300A$ could chose water-cool
- Easy to install

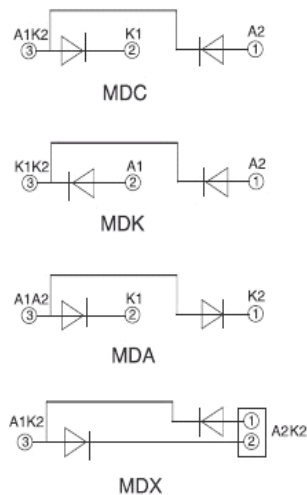
Applications

- AC DC motor control
- Motor soft start
- Industry heat-up control
- Rectificate power supply
- Welder
- Frequency transformer
- UPS power supply
- Battery charge & discharge

Explanation

- $I^2t = I_{TSM}^2 \times t_w / 2$; t_w = Half sine wave current, when at 50Hz,
 $I^2t = 0.005 I_{TSM}^2 (A^2S)$
- When at 60Hz, $I_{TSM}(8.3ms) = I_{TSM}(10ms) \times 1.066$, $T_j = T_{jm}$
 $I^2t(8.3ms) = I^2t(10ms) \times 0.943$, $T_j = T_{jm}$

Part number type & circuit

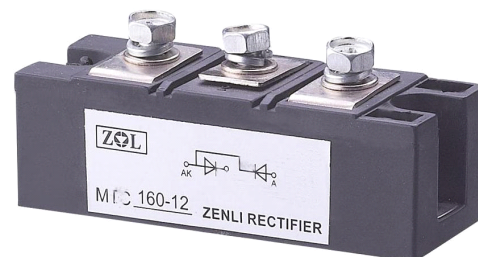


Ordering Information Table

Device Code **M D C 200 -12 ***

① ② ③ ④ ⑤ ⑥

- 1** -Power Module
- 2** -T=thy-thy D=dio-dio F=dio-thy
K=fast thy Z=fast dio H=fast thy-fast dio
- 3** -Circuit form:A=common positive pole
C=series connection K=common negative pole
X=reverse parallel connection
- 4** -Current Code= $I_{F(AV)}$
- 5** -Voltage code=Code $\times 100 = V_{RRM}$
- 6** -None: Air-cool * Means water-cool



ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	MDX130	MDX160	MDX200	Unit
$I_{F(AV)}$	Peak collector Current(eac diode)	THS=140°C	130	160	200	A
$I_{F(RMS)}$	RMS on-state current	THS=55°C	210	250	310	A
I_{FMS}	Surge on-state current	THS=55°C	3900	6000	7800	A
V_{RRM}	Repetitive peak reverse voltage	THS=140°C	400-2600			V
I_{RRM}	On-state voltage	THS=140°C	≤ 15.0	≤ 15.0	≤ 15.0	mA
V_{FM}	On-state Current	THS=140°C	1.38	1.45	1.38	V
I_{FM}	Gate Trigger Current	THS=140°C	400	480	600	A
R j-c	Peak gate forward voltage		≤ 0.31	≤ 0.23	≤ 0.21	°C/W
T_j	Junction temperature		-40~+150			°C
T_{stg}	Storage temperature		-40~+125			°C
MT	Mounting torque		≤ 3.0			N·m
Wt	Weight	Typical value	220	240	330	g

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Outline table

(Dimension in mm)

M3

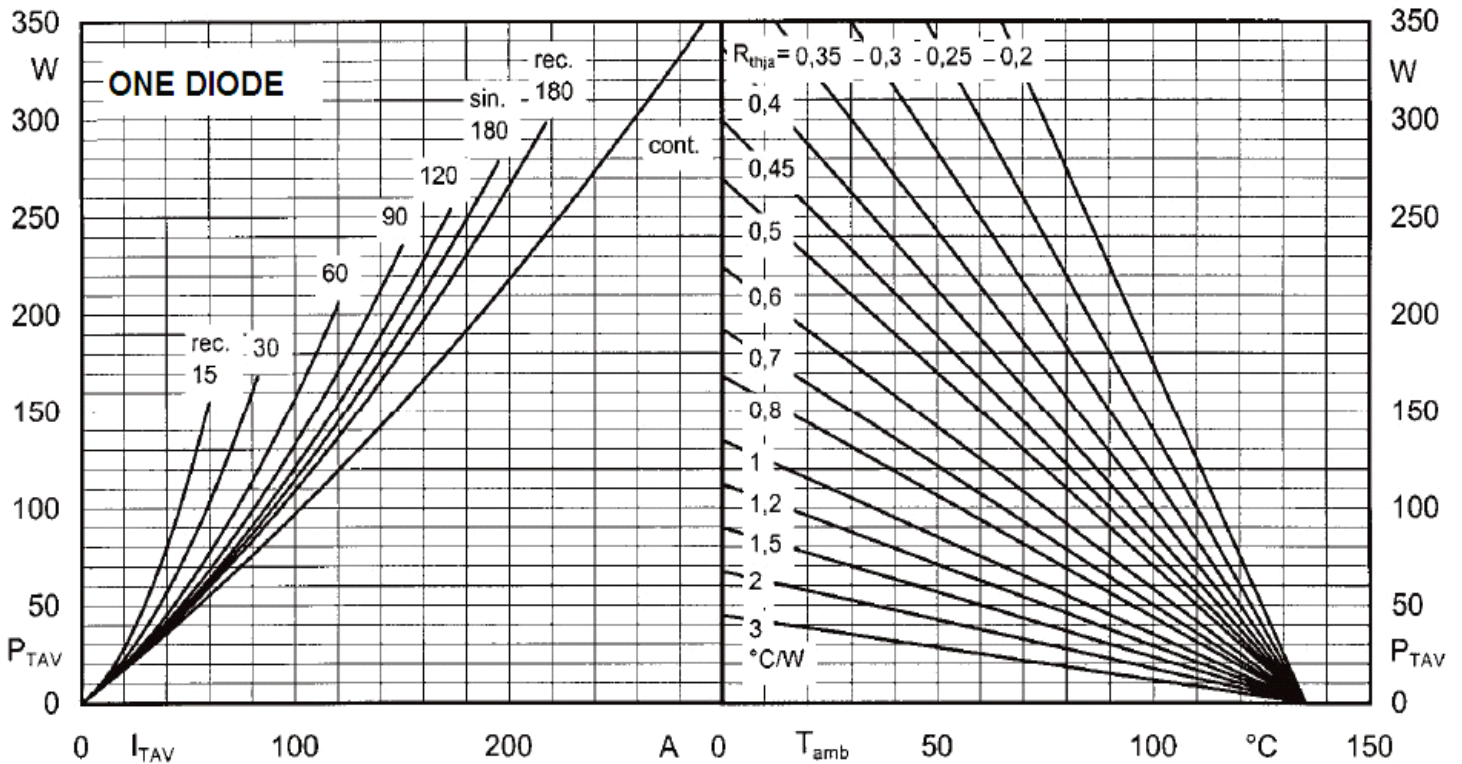
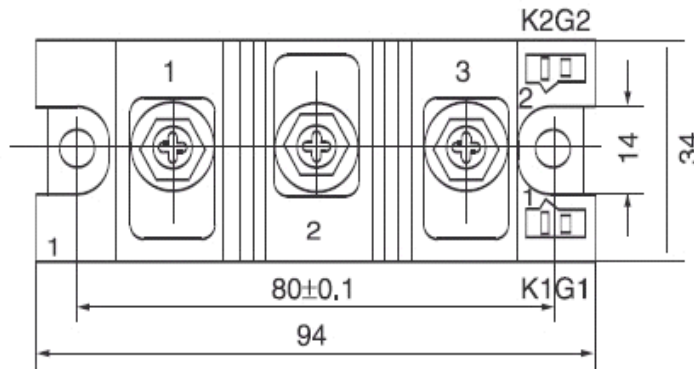
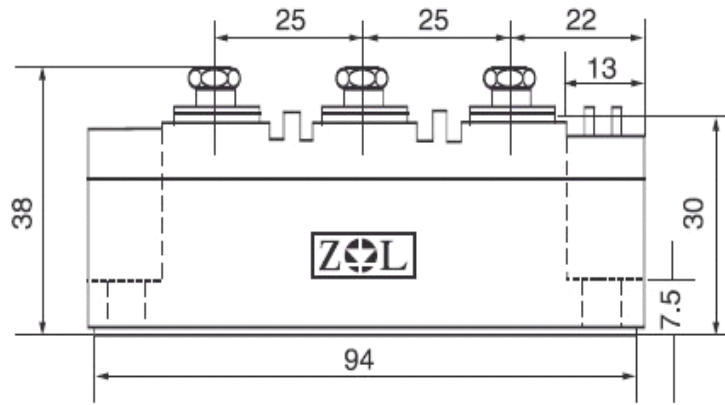


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

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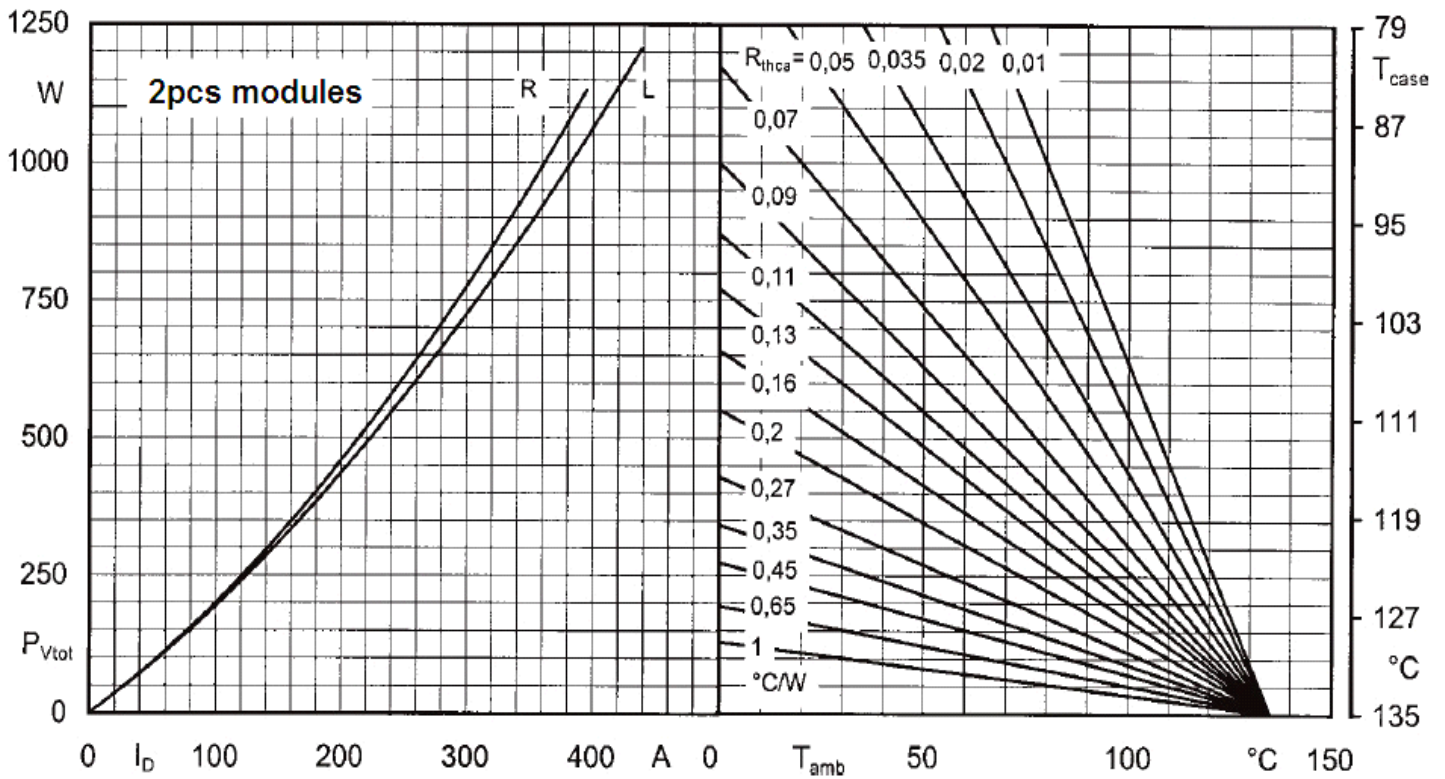


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

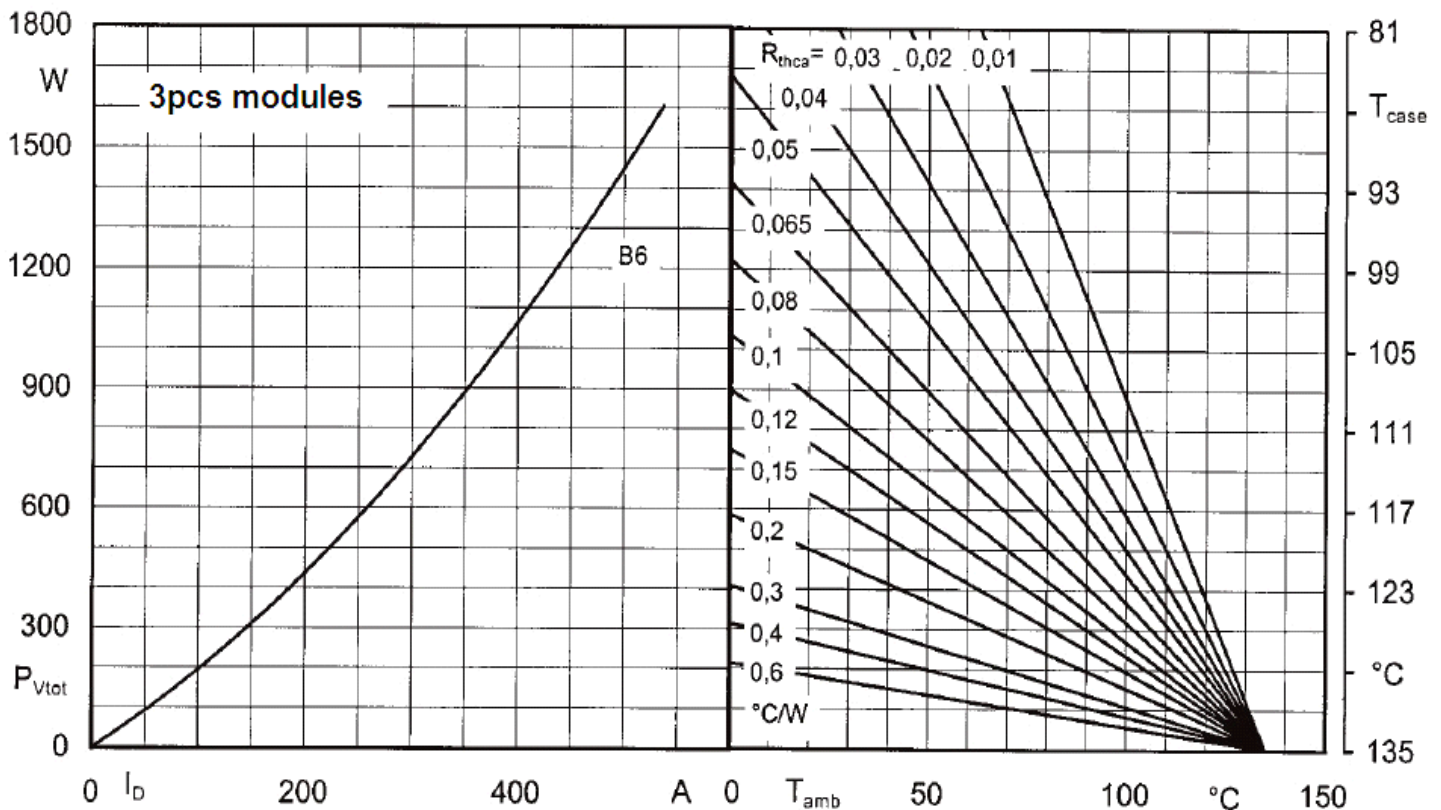


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

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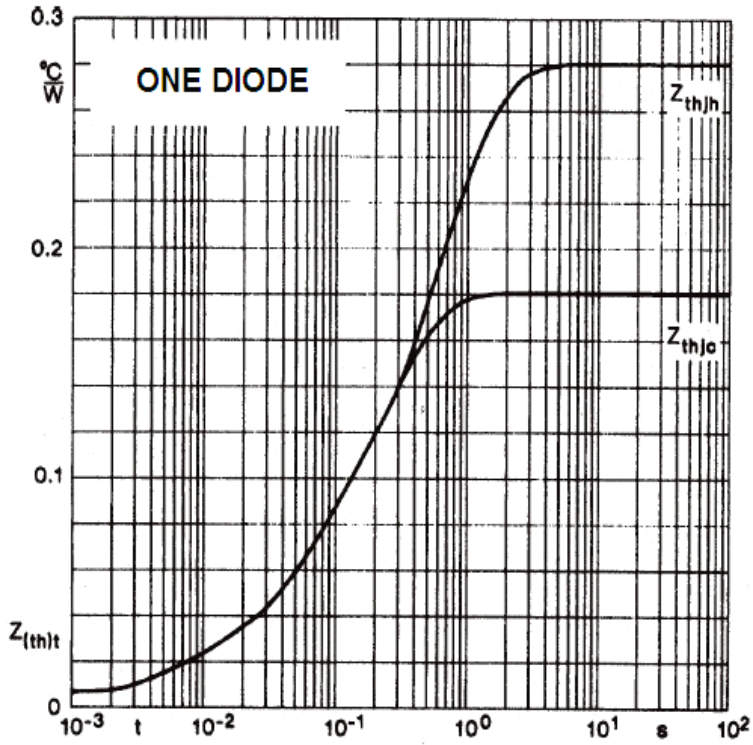


Fig. 14 b Transient thermal impedance vs. time

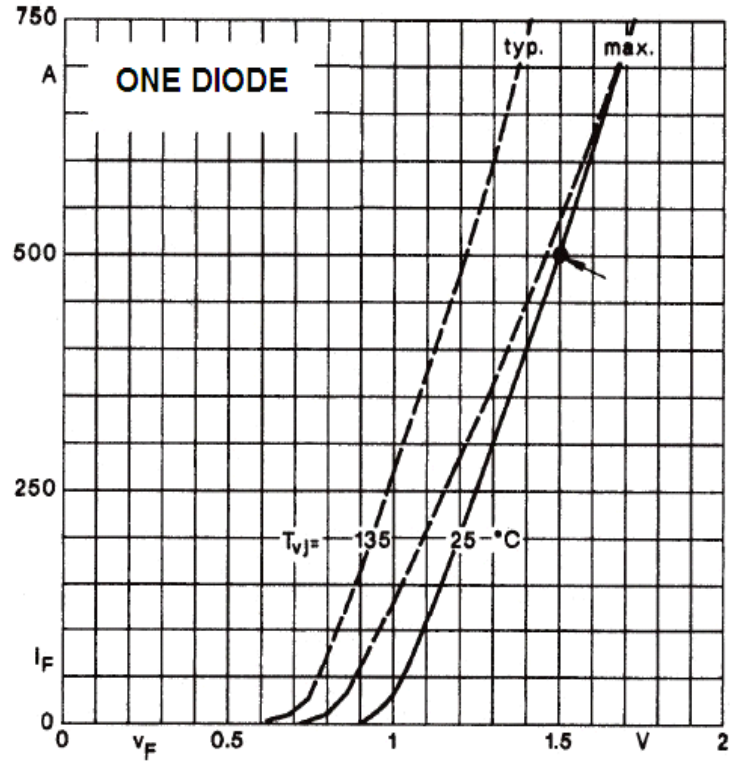


Fig. 15 b Forward characteristics

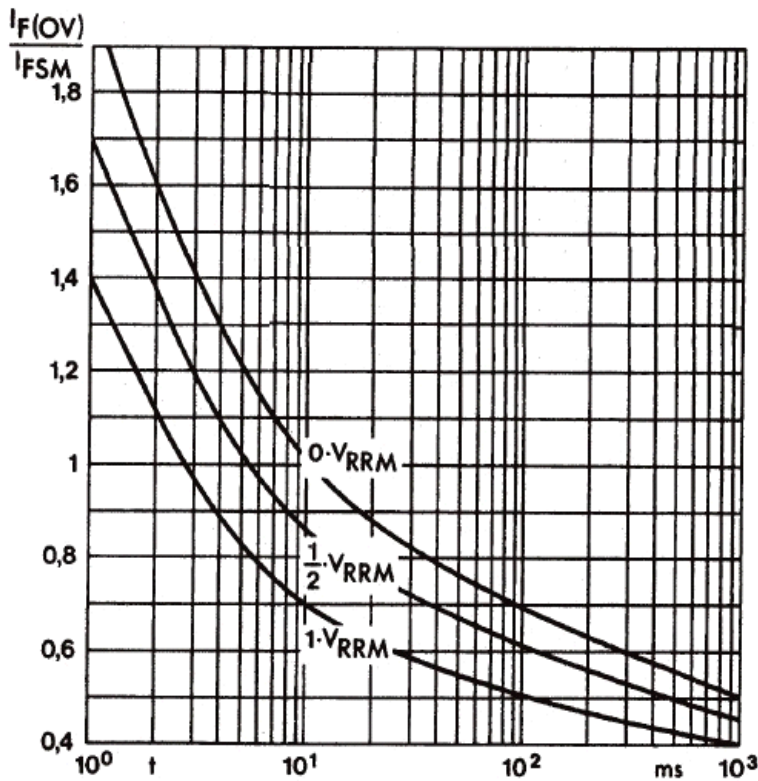


Fig. 16 Surge overload current vs. time