

Dual Diode Power Modules are designed for use in power electronic circuits and equipment under normal operating conditions.

**KEY PARAMETERS**

$U_{RRM}$	up to 1600 V
$I_{F(AV)}$	106 A
$I_{FSM}$	2500 A

**Outline**

See package details for further information

**APPLICATION**

- High Voltage Power Supplies
- Motor Control
- Battery Chargers
- Resistance Welding

**FEATURES**

- electrically isolated base
- high current capabilities
- high surge current capabilities
- high rates voltages
- low thermal impedance (Aluminium Nitride Insulators)
- tested according to IEC standards
- compact size and small weight

Designed for use in high power industrial and commercial power electronic circuits and equipment where high currents are encountered and high reliability is essential.

**ORDERING INFORMATION**

When ordering please refer to device code builder presented below.  
Please use the complete part number when ordering, quote or in any future correspondence relating to your order.

**MDC-106-12**

\_\_\_\_\_ voltage class

### ELECTRICAL PARAMETERS

#### Voltage ratings

Voltage class	$U_{RRM}$	$U_{RSM}$	$I_{RRM}$
	V	V	mA
04	400	500	5
06	600	700	
08	800	900	
10	1000	1100	
12	1200	1300	
14	1400	1500	
16	1600	1700	

#### Electrical properties

Parameter	Unit	Test conditions	Value
Average forward current @ case temperature	$I_{F(AV)}$	A	106
	$T_C$	°C	85
RMS forward current	$I_{F(RMS)}$	A	265
Surge current	$I_{FSM}$	A	$T_j = T_{jmax}$ , $U_R = 0,8U_{RRM}$ , $t_p = 10ms$
$I^2t$ – value	$I^2t$	$kA^2s$	31
Forward voltage drop max.	$U_{FM}$	V	$T_j = 25^\circ C$ , $I_{FM} = 300A$
Threshold voltage	$U_{F(T0)}$	V	$T_j = 125^\circ C$
Slope resistance	$r_F$	$m\Omega$	$T_j = 125^\circ C$
RMS isolation voltage	$U_{isol}$	V	AC 50 Hz; 60 s,

**Thermal properties**

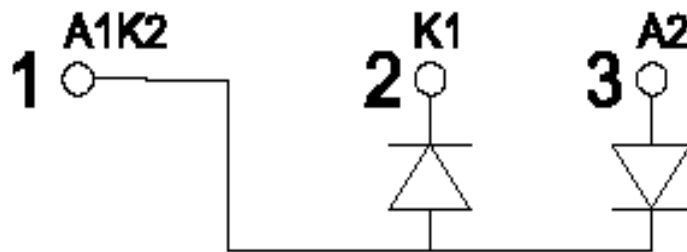
Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case per diode/per module	$R_{thjc}$	°C/W	DC	0,35 / 0,175
Thermal resistance, case to heatsink per diode/per module	$R_{thch}$	°C/W		0,20 / 0,1
Operating junction temperature	$T_{jmin}...T_{jmax}$	°C		-40...+125
Storage temperature	$T_{stg}$	°C		-40...+125

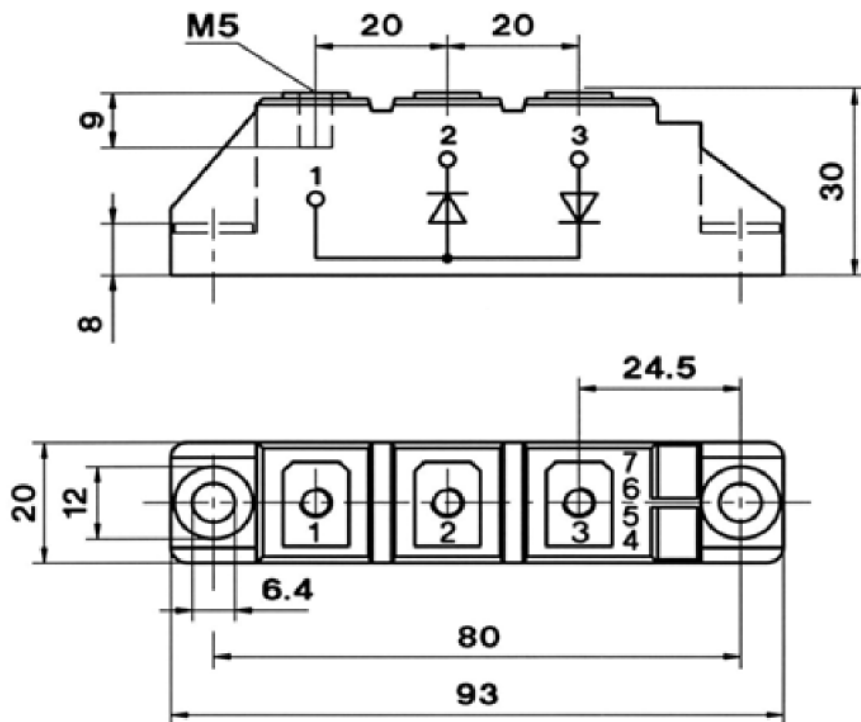
**Mechanical properties**

Parameter		Unit	Value
Mounting torque (M6)	M1	Nm	5,00 ±15%
Terminal connection torque (M5)	M2	Nm	3,00 ±15%
Weight	M	g	95

**Cofigurations**

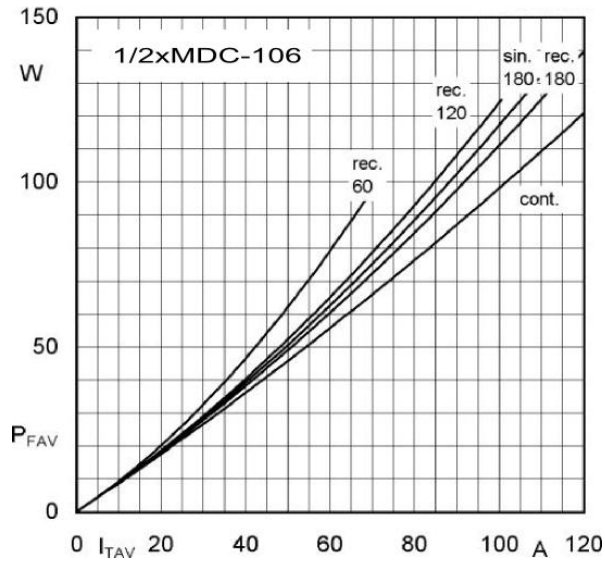
Terminal number:



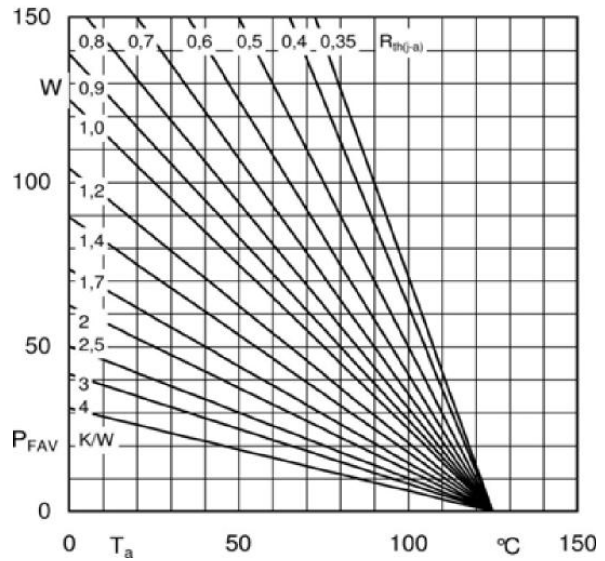
**Package details**

For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.  
Do not scale.

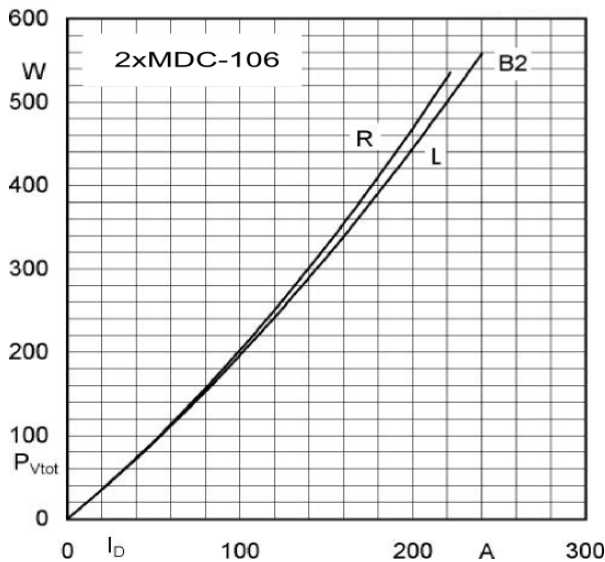
**CHARACTERISTICS**



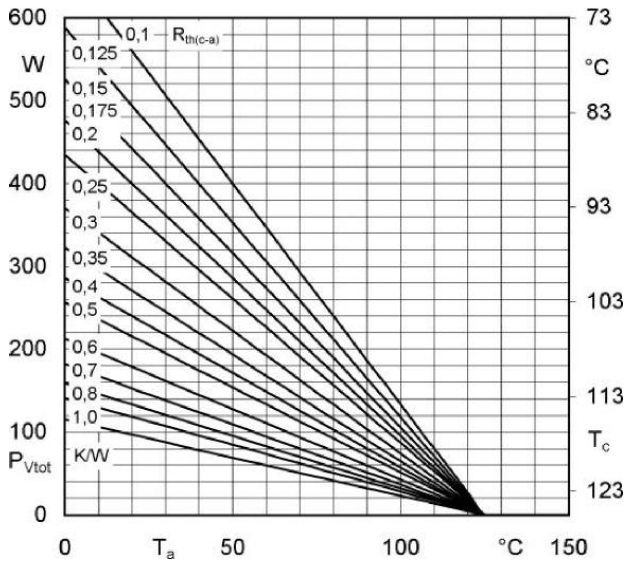
Power loss characteristics



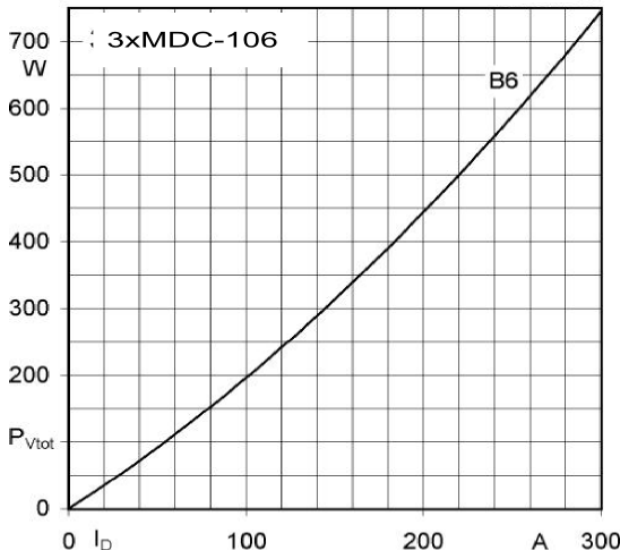
Power loss per diode vs ambient temperature



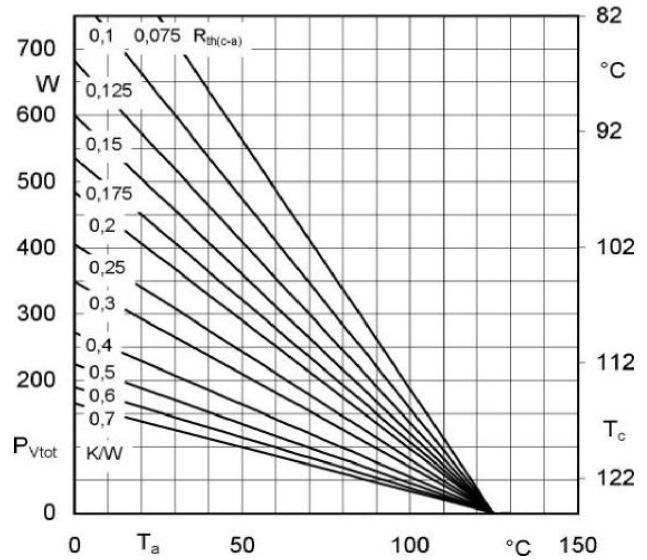
Power loss characteristics of two modules



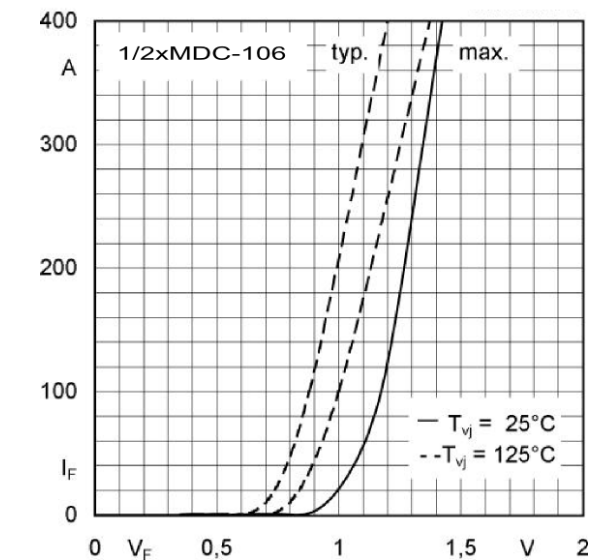
Power loss of two module vs case temperature



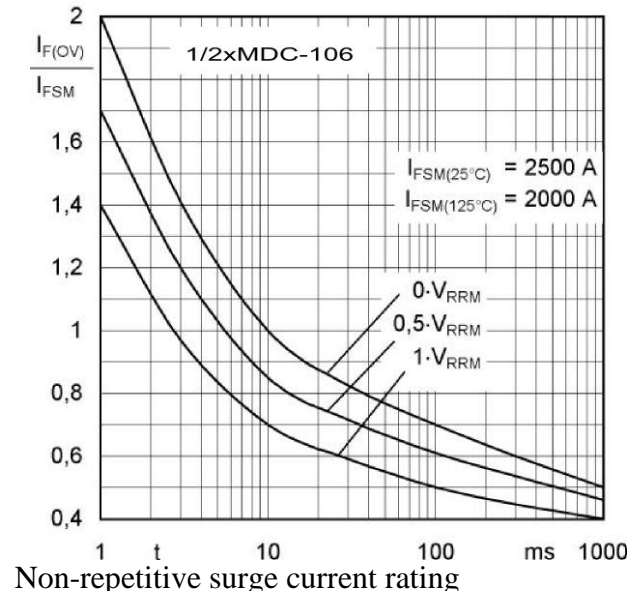
Power loss characteristics of three module



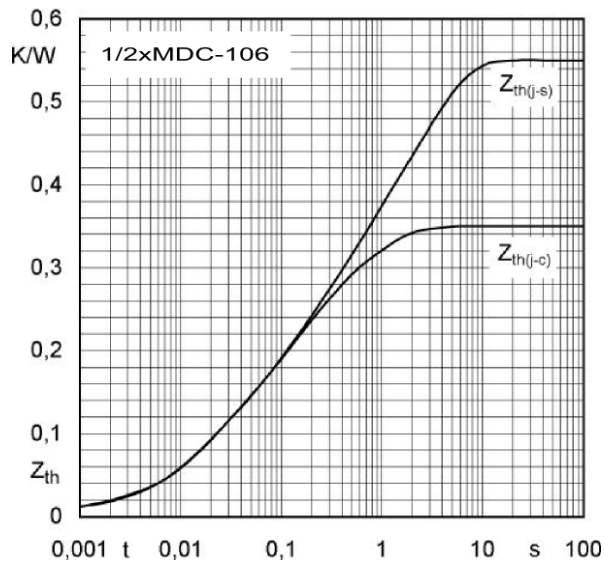
Power loss of three modules vs case temperature



Forward characteristic



Non-repetitive surge current rating



Transient thermal impedance