

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

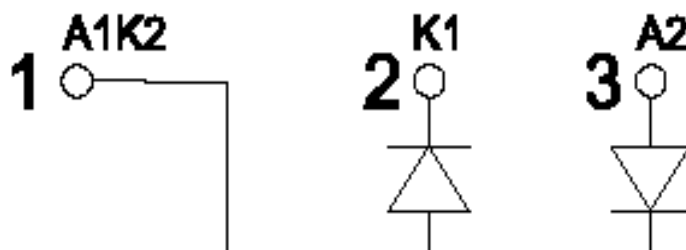
Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case per diode/per module	R_{thjc}	°C/W	DC	0,35 / 0,175
Thermal resistance, case to heatsink per diode/per module	R_{thch}	°C/W		0,20 / 0,1
Operating junction temperature	$T_{jmin}...T_{jmax}$	°C		-40...+125
Storage temperature	T_{stg}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

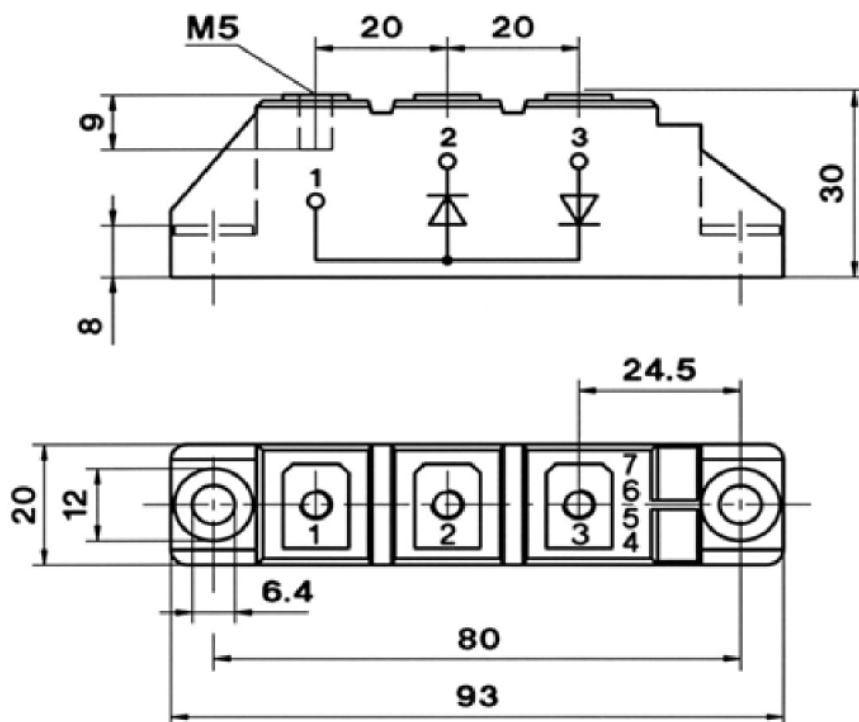
Mechanical properties

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

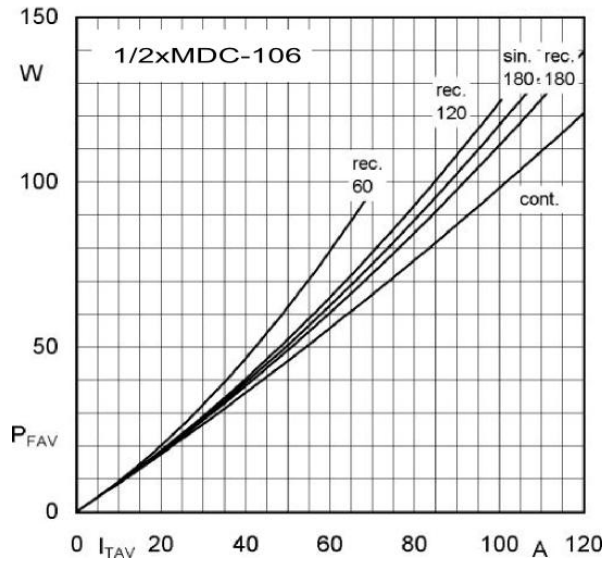
Terminal number:



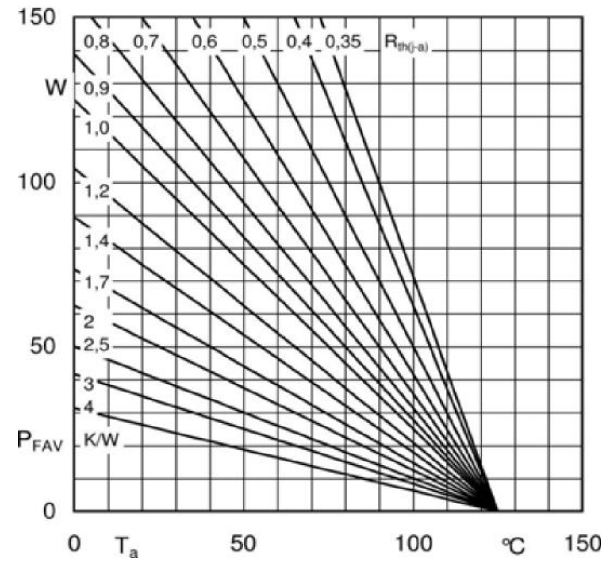
Package details

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

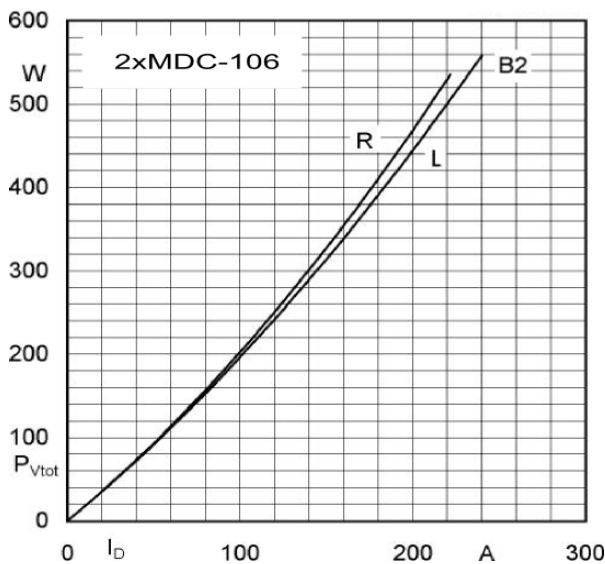
CHARACTERISTICS



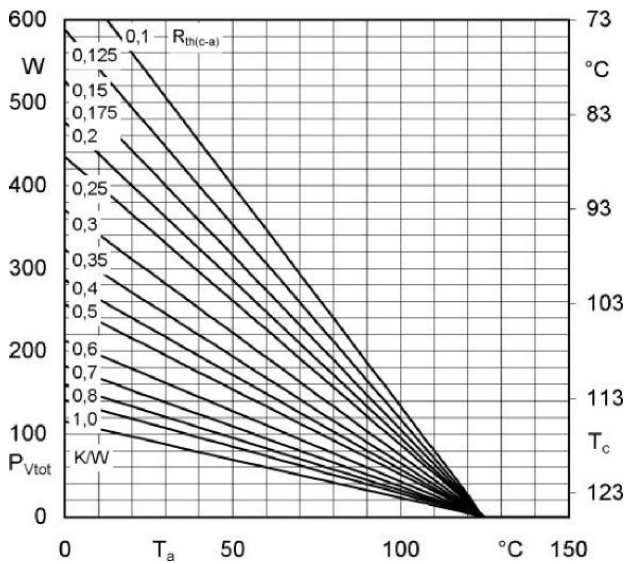
Power loss characteristics



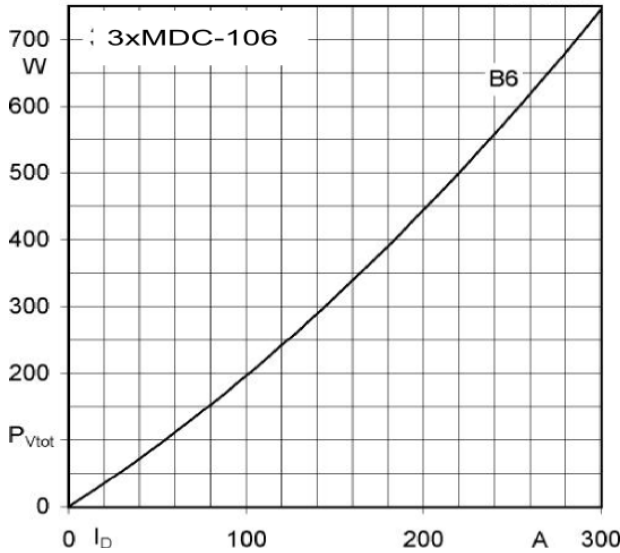
Power loss per diode vs ambient temperature



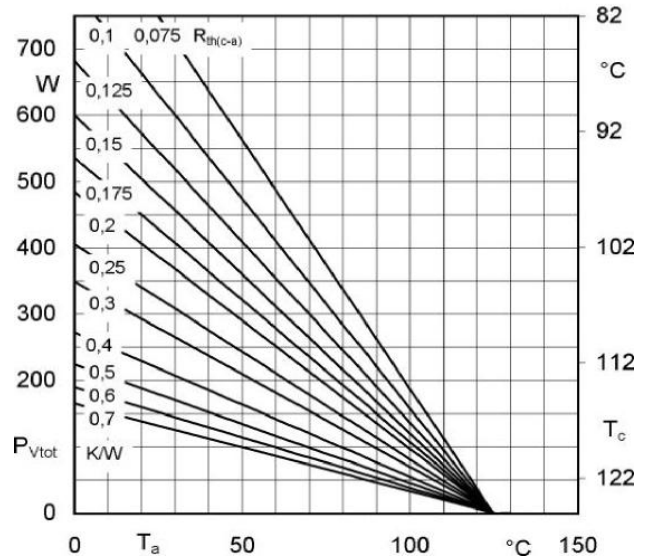
Power loss characteristics of two modules



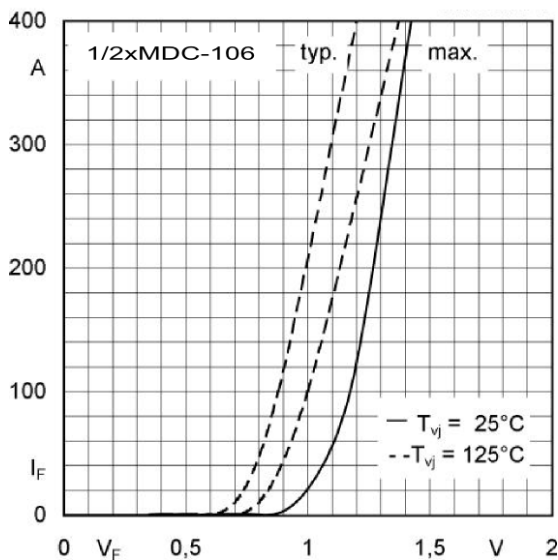
Power loss of two module vs case temperature



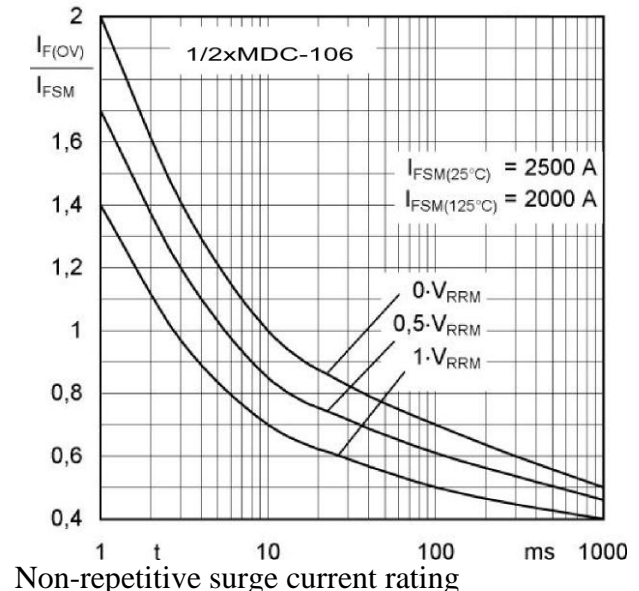
Power loss characteristics of three module



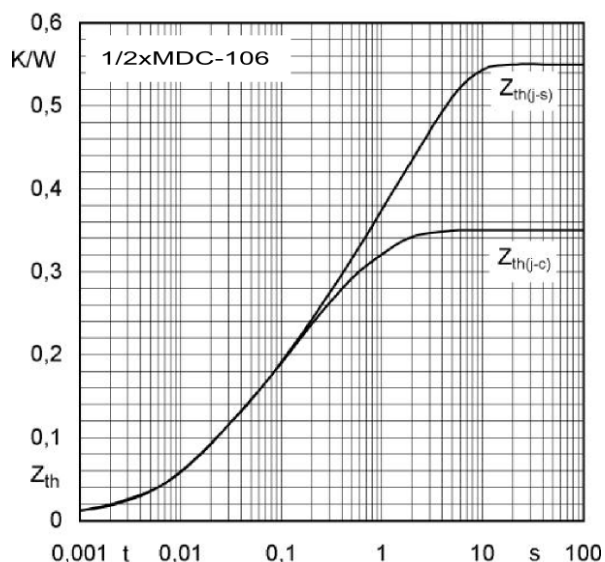
Power loss of three modules vs case temperature



Forward characteristic



Non-repetitive surge current rating



Transient thermal impedance