



**Key Parameters**

$V_{RRM}$	= 2800V
$I_{F(AV)}$	= 3500A
$I_{FSM}$	= 52500A
$V_{F(TO)}$	= 0.65V
$r_F$	= 0.15mΩ

**Features**

- Full blocking capability over wide temperature range
- Hermetically sealed ceramic package
- High case non-rupture current

**Applications**

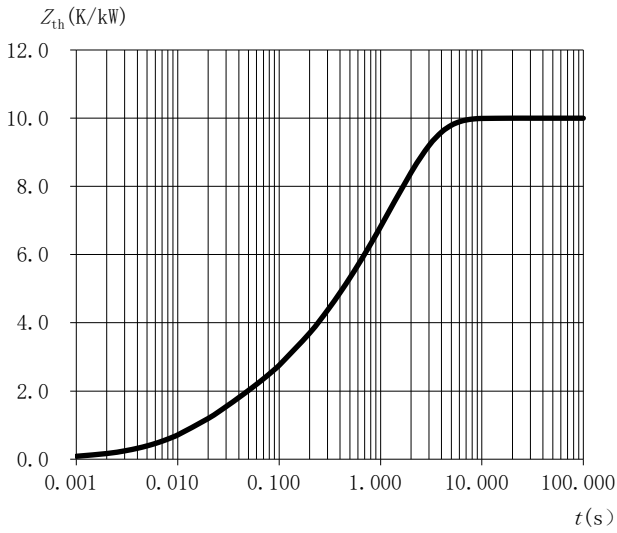
- Traction Rectifiers
- Uncontrolled Rectifiers
- Induction Heating / Melting

**Ordering Information**

<b>MS PERI</b>	<b>D</b>	<b>3500</b>	<b>CZ</b>	<b>X X</b>
Fixed Code	Rectifier Diode	Current code	CZ - Capsule package with Free floating silicon Technology	Voltage Code Code X 100 = $V_{RRM}$
Order Code MS PERI D3500CZ28 : 2800V $V_{RRM}$ , Capsule Diode				

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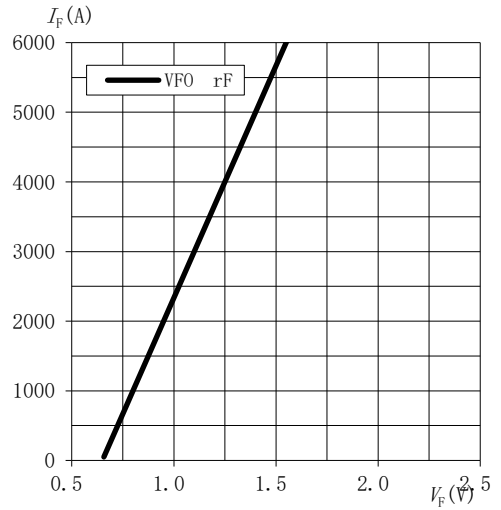
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		175	2800	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		175	2900	V
I <sub>RRM</sub>	Repetitive peak reverse current	V = V <sub>RRM</sub>	175	200	mA
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin, 50 Hz, T <sub>c</sub> =100°C, double side cooled		3500	A
I <sub>FRMS</sub>	RMS current			5500	A
I <sub>FSM1</sub>	Surge forward current	Sine wave, 10 ms Without reverse voltage	175	52500	A
I <sup>2</sup> t	I <sup>2</sup> t		175	13781 x 10 <sup>3</sup>	A <sup>2</sup> s
V <sub>F</sub>	Forward voltage	On-state current = 3000A	175	1.1	V
V <sub>F(TO)</sub>	Threshold voltage		175	0.65	V
r <sub>F</sub>	Forward slope resistance		175	0.15	mΩ
<b>SWITCHING</b>					
Q <sub>rr</sub>	Reverse recovery charge	I <sub>FM</sub> =3000A, -di <sub>F</sub> /dt = 10A/μs, V <sub>R</sub> = 100V, t <sub>p</sub> =5000μs	175	10000	μC
<b>THERMAL</b>					
R <sub>th(j-c)</sub>	Thermal impedance, sin 180°	Junction to case, double side cooled		0.010	°C/W
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		0.0025	°C/W
T <sub>j</sub>	Max. junction temperature			175	°C
T <sub>stg</sub>	Storage temperature			-40 .... 175	°C
<b>MECHANICAL</b>					
M	Clamping force			45 - 60	KN
W	Weight (Approx.)			1000	gm
D <sub>s</sub>	Surface creepage distance			36	mm
D <sub>a</sub>	Air strike distance			15	mm
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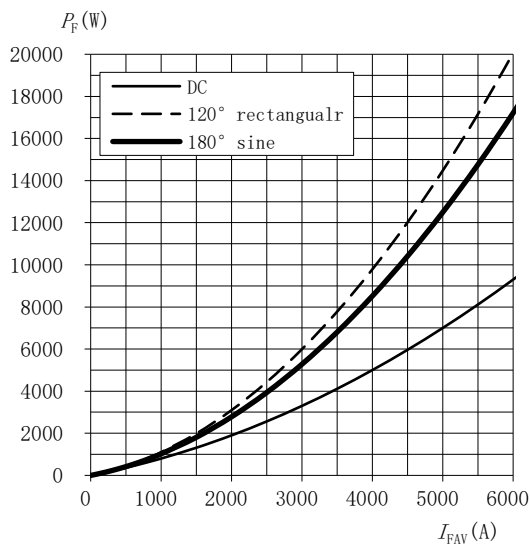
**Fig.1 : Transient thermal impedance (junction-to-case) vs. time**

$$Z_{th(j-c)}(t) = \sum_{i=1}^n R_i(1 - e^{-t/\tau_i})$$

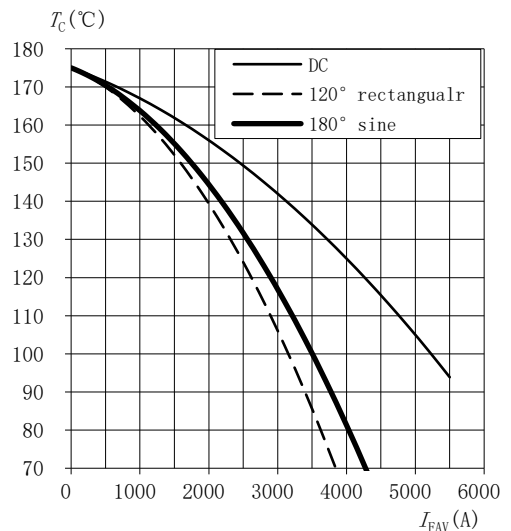
<i>i</i>	1	2	3	4
$R_i(K/kW)$	6.2105	1.614	1.2281	0.9474
$\tau_i(s)$	1.4702	0.2696	0.0184	0.094



**Fig.2 : On-state V-I characteristics**

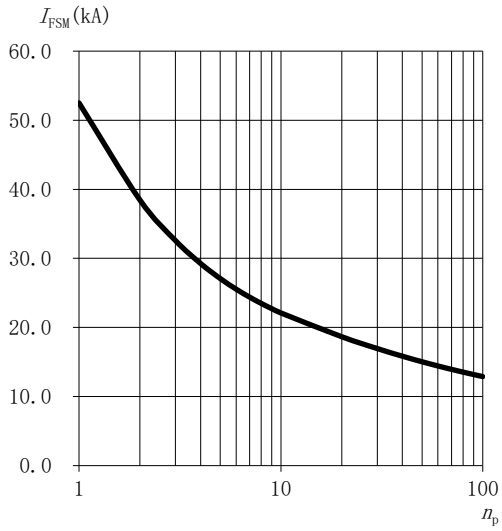


**Fig.3 : On-state power loss ( $P_F$ ) vs. average on-state Current ( $I_{FAV}$ )**

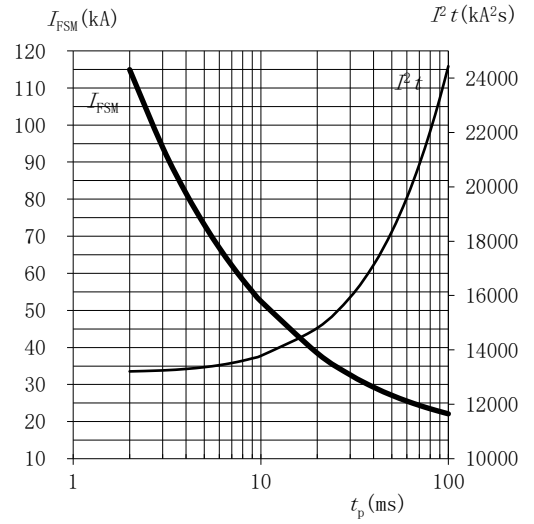


**Fig.4 : Max. permissible case temperature( $T_c$ ) vs. average on-state current( $I_{FAV}$ )**

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**Fig.5: Surge on-state current ( $I_{FSM}$ ) vs. number of pulses ( $n_p$ )**



**Fig.6: Surge on-state current ( $I_{FSM}$ ) and surge current integral ( $I^2t$ ) vs. pulse length ( $t_p$ )**

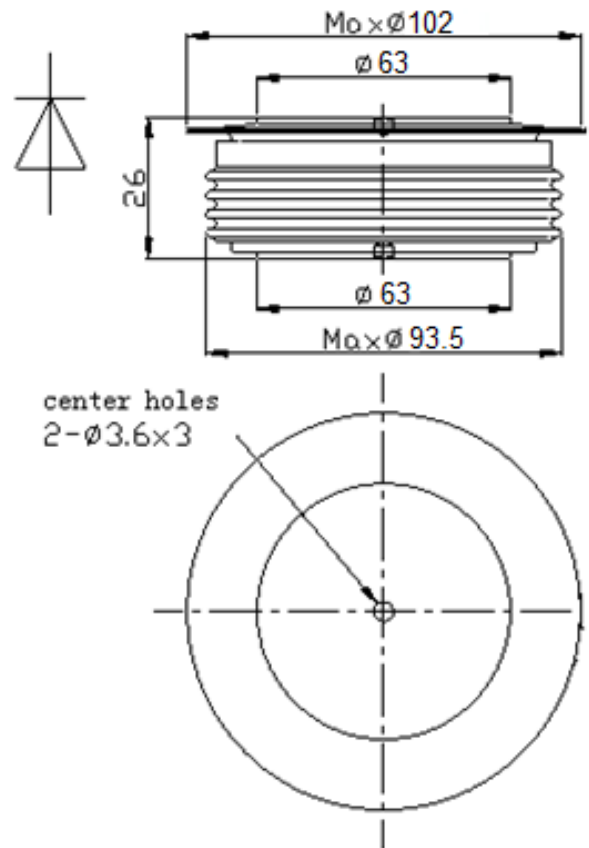
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