

## Welding diode (housingless)

### Properties

- High forward current capability
- Low forward voltage drop
- International standard cases

### Applications

- Welding equipment
- High current application up to 2000 Hz

### Key parameters

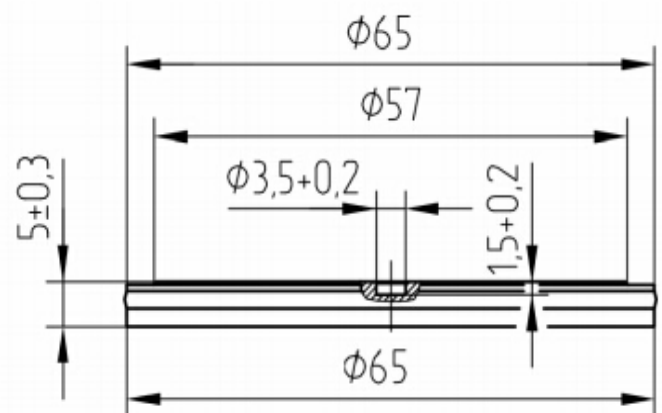
$V_{RRM}$	=	400	V
$I_{FAVm}$	=	13526	A
$I_{FSM}$	=	85 000	A
$V_{TO}$	=	0.750	V
$r_T$	=	0.024	mΩ

### Types

type	$V_{RRM}$
ZP13500A/400V	400V
Conditions: $T_j = -40 - 180\text{ °C}$ , half sine waveform, $f = 50\text{ Hz}$	

### Mechanical data

$F_m$	Mounting force	35 - 70 kN
$m$	Weight	0.14 kg
$D_s$	Surface creepage distance	2 mm
$D_a$	Air strike distance	2 mm



# Welding Diode

## Parameters

ZP13500-400

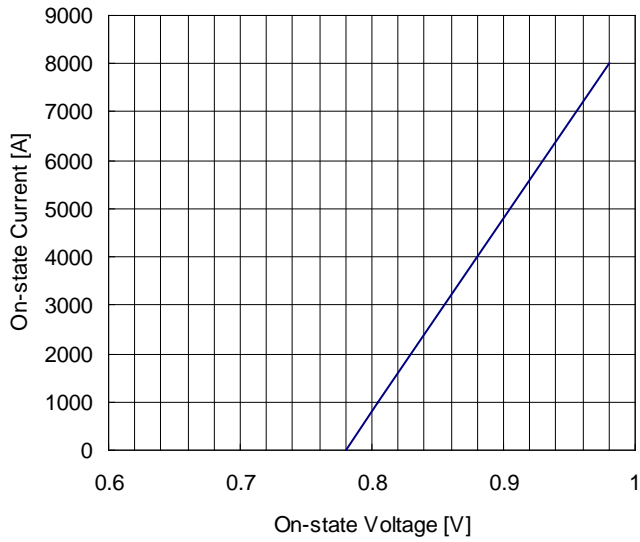
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		180	400	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		180	400-600	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=VRRM	180	75	mA
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Tc=85°C, double side cooled		13526	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms without reverse voltage	180	85	kA
I <sup>2</sup> t	I <sup>2</sup> t			36000	kA <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current =8000 A	25	0.92-0.98	V
V <sub>F(TO)</sub>	Threshold voltage		180	0.75	V
r <sub>F</sub>	Forward slope resistance		180	0.022	mohm
<b>SWITCHING</b>					
t <sub>rr</sub>	Reverse recovery time		180		μs
Q <sub>rr</sub>	Reverse recovery charge			600	μC
I <sub>rr</sub>	Peak reverse recovery current				A
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance, DC	Junction to heatsink, double side cooled		6.5	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		2.6	°C/kW
T <sub>j</sub>	Operating junction temperature			-40 / 180	°C
F	Mounting force			35 / 70	kN
	Mass			160	g
<b>ORDERING INFORMATION : ZP13500 02-04</b> standard specification VRRM/100					

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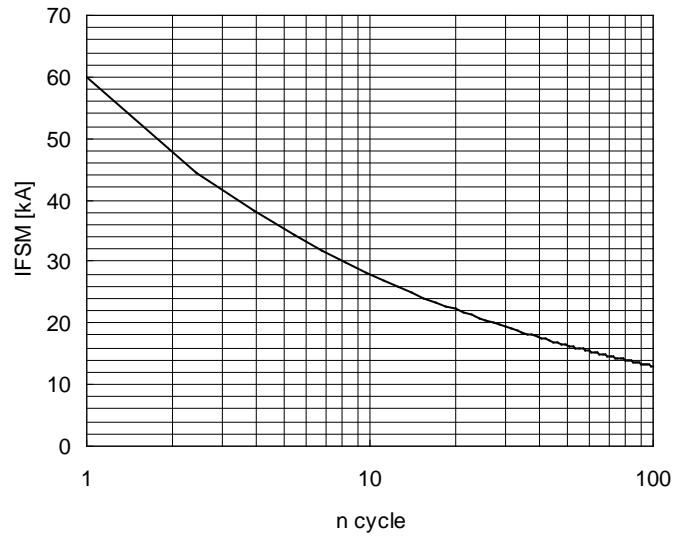
ZP13500-400

## Characteristics

ON-STATE CHARACTERISTIC  $T_j = 180\text{ }^\circ\text{C}$



SURGE CHARACTERISTIC  $T_j = 180\text{ }^\circ\text{C}$



TRANSIENT THERMAL IMPEDANCE

