JING LI
Power Electronics

ZP13500A/400V

Welding diode (housingless)

Properties

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

Key parameters

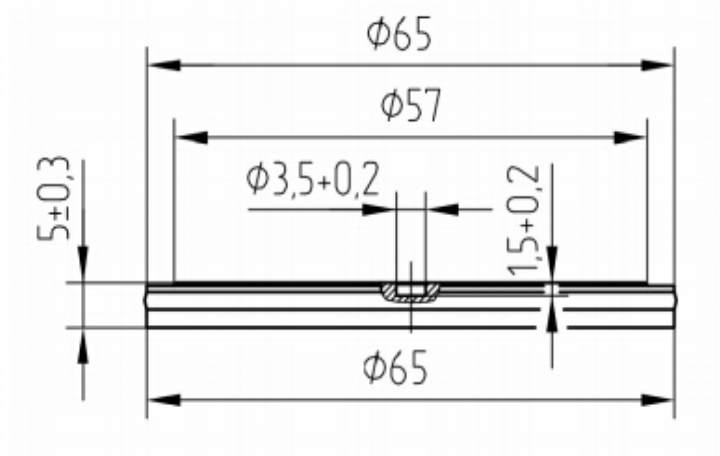
V_{RRM}	=	400	V
I_{FAVm}	=	13526	A
I_{FSM}	=	85 000	A
V_{TO}	=	0.750	V
r_T	=	0.024	mΩ

Applications

- Welding equipment
- High current application up to 2000 Hz

Types

type	V_{RRM}
ZP13500A/400V	400V
Conditions:	T_j = -40 - 180 °C, half sine waveform, f = 50 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	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		180	400	V
V_{RSM}	Non-repetitive peak reverse voltage		180	400-600	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	180	75	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin ,50 Hz, Tc=85°C, double side cooled		13526	A
I_{FSM}	Surge forward current	Sine wave, 10 ms without reverse voltage	180	85	kA
I^2t	I^2t			36000	kA^2s
V_{FM}	Forward voltage	Forward current =8000 A	25	0.92-0.98	V
$V_{F(TO)}$	Threshold voltage		180	0.75	V
r_F	Forward slope resistance		180	0.022	mohm
SWITCHING					
t rr	Reverse recovery time		180		µs
Q rr	Reverse recovery charge			600	µC
I rr	Peak reverse recovery current				A
MOUNTING					
$R_{th(j-h)}$	Thermal impedance, DC	Junction to heatsink, double side cooled		6.5	°C/kW
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		2.6	°C/kW
T_j	Operating junction temperature			-40 / 180	°C
F	Mounting force			35 / 70	kN
	Mass			160	g

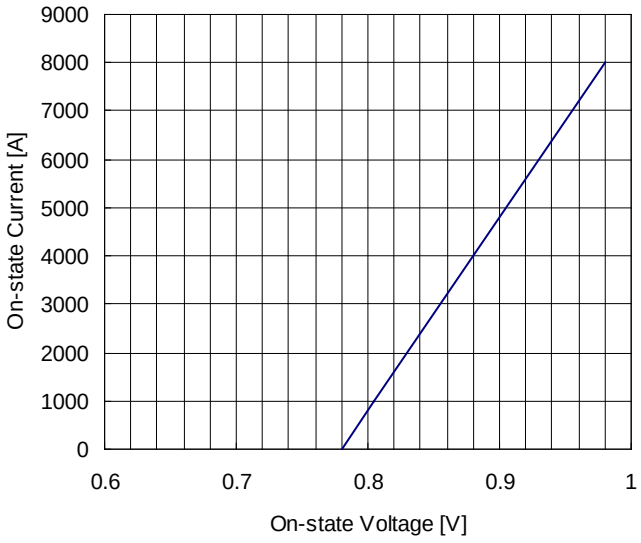
ORDERING INFORMATION : ZP13500 02-04 standard specification VRRM/100

Welding Diode

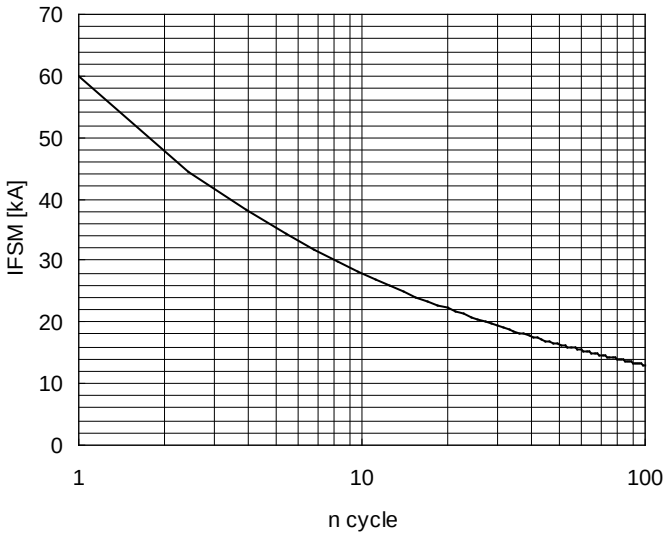
Characteristics

ZP13500-400

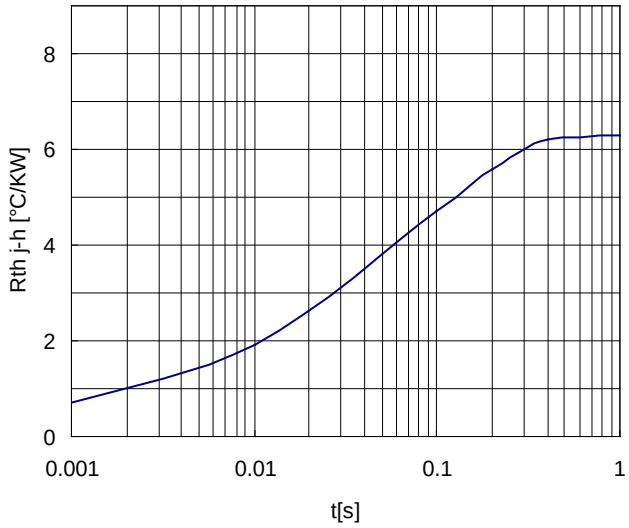
ON-STATE CHARACTERISTIC Tj = 180 °C



SURGE CHARACTERISTIC Tj = 180 °C



TRANSIENT THERMAL IMPEDANCE



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