

# Rectifier Diode

## Types W108CED180 to W108CED220

Development part number Wx587ED180-220

### Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
$V_{RRM}$	Repetitive peak reverse voltage, (note 1)	2200-1800	V
$V_{RSM}$	Non-repetitive peak reverse voltage, (note 1)	2300-1900	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
$I_{F(AV)M}$	Maximum average forward current, $T_{sink}=55^{\circ}C$ , (note 2)	10815	A
$I_{F(AV)M}$	Maximum average forward current. $T_{sink}=100^{\circ}C$ , (note 2)	8015	A
$I_{F(AV)M}$	Maximum average forward current. $T_{sink}=100^{\circ}C$ , (note 3)	5010	A
$I_{F(RMS)M}$	Nominal RMS forward current, $T_{sink}=25^{\circ}C$ , (note 2)	19495	A
$I_{F(d.c.)}$	D.C. forward current, $T_{sink}=25^{\circ}C$ , (note 4)	17240	A
$I_{FSM}$	Peak non-repetitive surge $t_p=10ms$ , $V_{rm}=60\%V_{RRM}$ , (note 5)	94.5	kA
$I_{FSM2}$	Peak non-repetitive surge $t_p=10ms$ , $V_{rm}\leq 10V$ , (note 5)	103.9	kA
$I^2t$	$I^2t$ capacity for fusing $t_p=10ms$ , $V_{rm}=60\%V_{RRM}$ , (note 5)	44.7	kA <sup>2</sup> s
$I^2t$	$I^2t$ capacity for fusing $t_p=10ms$ , $V_{rm}\leq 10V$ , (note 5)	54.0	kA <sup>2</sup> s
$T_{j\ op}$	Operating temperature range	-40 to +175	$^{\circ}C$
$T_{stg}$	Storage temperature range	-55 to +175	$^{\circ}C$

Notes:-

- 1) De-rating factor of 0.13% per  $^{\circ}C$  is applicable for  $T_j$  below  $25^{\circ}C$ .
- 2) Double side cooled, single phase; 50Hz,  $180^{\circ}$  half-sinewave.
- 3) Single side cooled, single phase; 50Hz,  $180^{\circ}$  half-sinewave.
- 4) Double side cooled.
- 5) Half-sinewave,  $175^{\circ}C$   $T_j$  initial.

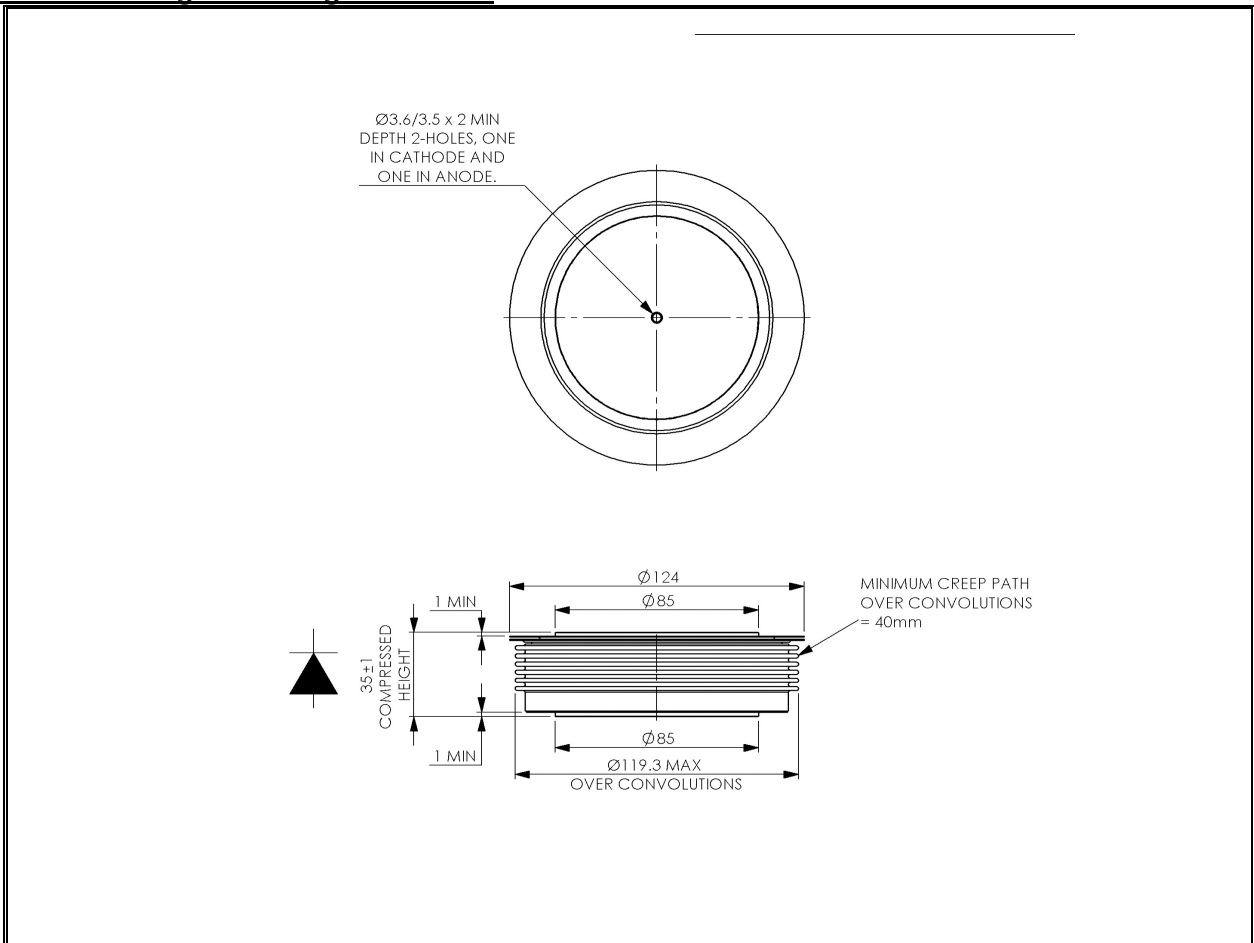
**Characteristics**

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V <sub>FM</sub>	Maximum peak forward voltage	-	-	0.99	I <sub>FM</sub> =6200A	V
V <sub>T0</sub>	Threshold voltage	-	-	0.726		V
r <sub>T</sub>	Slope resistance	-	-	0.042		mΩ
I <sub>RRM</sub>	Peak reverse current	-	-	150	Rated V <sub>RRM</sub>	mA
Q <sub>rr</sub>	Recovered charge	-	6500	7050		μC
Q <sub>ra</sub>	Recovered charge, 50% Chord	-	5600	-	I <sub>TM</sub> =2500A, t <sub>p</sub> =2000μs, di/dt=10A/μs, V <sub>r</sub> =100V	μC
I <sub>rm</sub>	Reverse recovery current	-	320	-		A
t <sub>rr</sub>	Reverse recovery time, 50% chord	-	35	-		μs
R <sub>thJK</sub>	Thermal resistance, junction to heatsink	-	-	0.006	Double side cooled	K/W
		-	-	0.012	Single side cooled	K/W
I <sub>CNR</sub>	Case non-rupture current	-	30	-		MA <sup>2</sup> s
F	Mounting force	76	-	93	Note 2	kN
W <sub>t</sub>	Weight		2.2			kg

Notes:-

- 1) Unless otherwise indicated T<sub>j</sub>=175°C.
- 2) For other clamp forces, please consult factory.

**Outline Drawing & Ordering Information**



**ORDERING INFORMATION**

(Please quote 10 digit code as below)

<b>W108C</b>	<b>ED</b>	<b>◆◆</b>	<b>0</b>
Fixed Type Code	Fixed Outline Code	Voltage code V <sub>RRM</sub> /100 18 and 22	Fixed code

Order code: W108CED220 – 2200V V<sub>RRM</sub>, 35mm clamp height capsule.

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