



# Rectifier Diode

## Types W8400ED320 and W8400ED350

Development part number Wx586ED320-350

### Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
$V_{RRM}$	Repetitive peak reverse voltage, (note 1)	3200-3500	V
$V_{RSM}$	Non-repetitive peak reverse voltage, (note 1)	3300-3600	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
$I_{F(AV)M}$	Maximum average forward current, $T_{sink}=55^{\circ}C$ , (note 2)	8400	A
$I_{F(AV)M}$	Maximum average forward current. $T_{sink}=100^{\circ}C$ , (note 2)	5870	A
$I_{F(AV)M}$	Maximum average forward current. $T_{sink}=100^{\circ}C$ , (note 3)	3650	A
$I_{F(RMS)M}$	Nominal RMS forward current, $T_{sink}=25^{\circ}C$ , (note 2)	15400	A
$I_{F(d.c.)}$	D.C. forward current, $T_{sink}=25^{\circ}C$ , (note 4)	13640	A
$I_{FSM}$	Peak non-repetitive surge $t_p=10ms$ , $V_{rm}=60\%V_{RRM}$ , (note 5)	83	kA
$I_{FSM2}$	Peak non-repetitive surge $t_p=10ms$ , $V_{rm}\leq 10V$ , (note 5)	91.3	kA
$I^2t$	$I^2t$ capacity for fusing $t_p=10ms$ , $V_{rm}=60\%V_{RRM}$ , (note 5)	34.4	$kA^2s$
$I^2t$	$I^2t$ capacity for fusing $t_p=10ms$ , $V_{rm}\leq 10V$ , (note 5)	41.7	$kA^2s$
$T_{j op}$	Operating temperature range	-40 to +160	$^{\circ}C$
$T_{stg}$	Storage temperature range	-55 to +160	$^{\circ}C$

### Notes:-

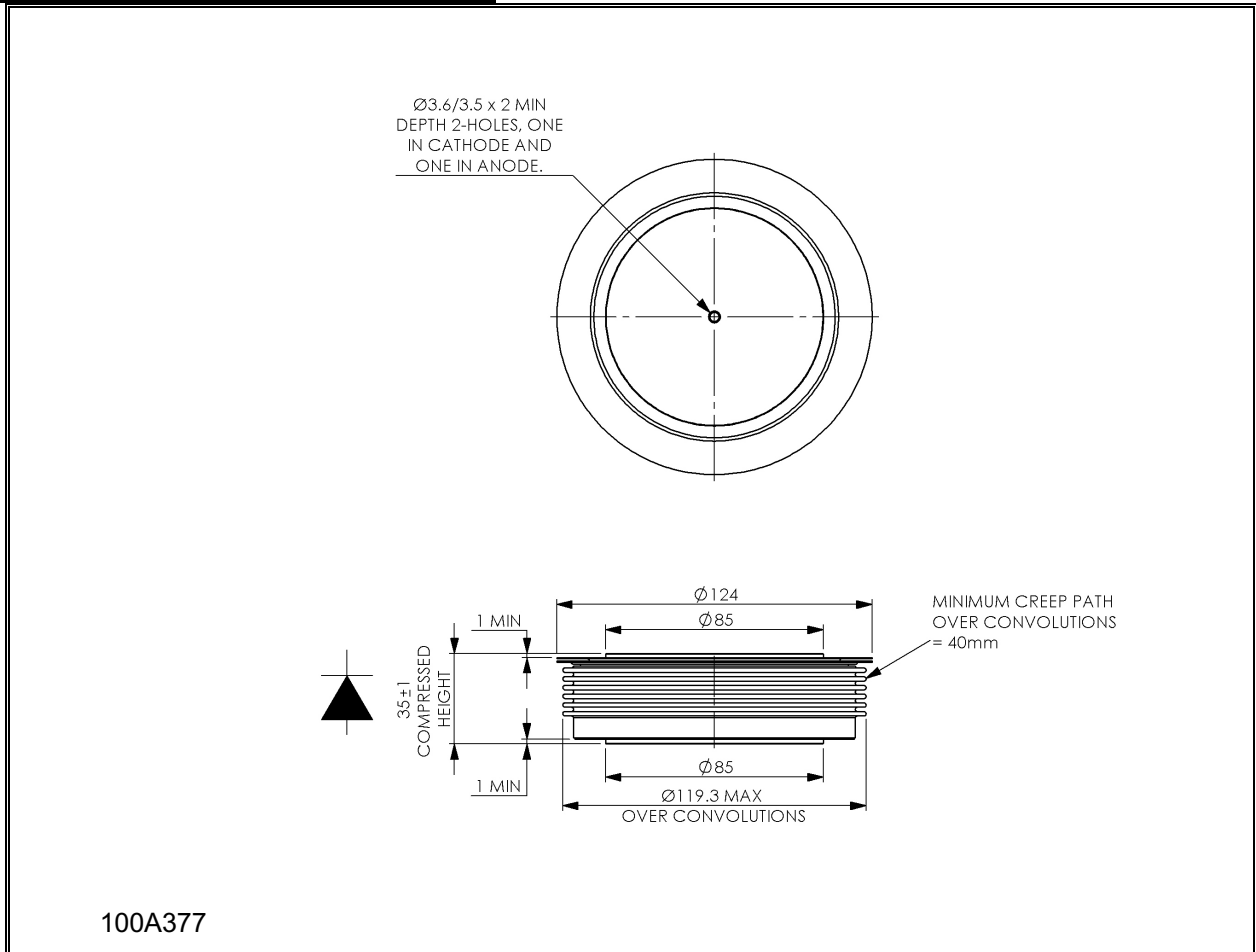
- 1) De-rating factor of 0.13% per  $^{\circ}C$  is applicable for  $T_j$  below  $25^{\circ}C$ .
- 2) Double side cooled, single phase; 50Hz,  $180^{\circ}$  half-sinewave.
- 3) Single side cooled, single phase; 50Hz,  $180^{\circ}$  half-sinewave.
- 4) Double side cooled.
- 5) Half-sinewave,  $160^{\circ}C$   $T_j$  initial.

**Characteristics**

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V <sub>FM</sub>	Maximum peak forward voltage	-	-	1.2	I <sub>FM</sub> =6200A	V
V <sub>T0</sub>	Threshold voltage	-	-	0.817		V
r <sub>T</sub>	Slope resistance	-	-	0.061		mΩ
I <sub>RRM</sub>	Peak reverse current	-	-	150	Rated V <sub>RRM</sub>	mA
Q <sub>rr</sub>	Recovered charge	-	13500	15000		μC
Q <sub>ra</sub>	Recovered charge, 50% Chord	-	8550	-	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	-	450	-		A
t <sub>rr</sub>	Reverse recovery time, 50% chord	-	38	-		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>=160°C.
- 2) For other clamp forces, please consult factory.

**Outline Drawing & Ordering Information**

**ORDERING INFORMATION**

(Please quote 10 digit code as below)

<b>W8400</b>	<b>ED</b>	<b>◆◆</b>	<b>0</b>
Fixed Type Code	Fixed Outline Code	Voltage code $V_{RRM}/100$ 32 and 35	Fixed code

 Order code: W8400ED320 – 3200V  $V_{RRM}$ , 35mm clamp height capsule.

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