



## Wespack Rectifier Diode

### Types W3409NK240 and W3409NK280

#### Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V <sub>RRM</sub>	Repetitive peak reverse voltage, (note 1)	2400-2800	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage, (note 1)	2500-2900	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
I <sub>F(AV)M</sub>	Maximum average forward current, T <sub>sink</sub> =55°C, (note 2)	3409	A
I <sub>F(AV)M</sub>	Maximum average forward current. T <sub>sink</sub> =85°C, (note 2)	2765	A
I <sub>F(AV)M</sub>	Maximum average forward current. T <sub>sink</sub> =85°C, (note 3)	1852	A
I <sub>F(AV)M</sub>	Maximum average forward current. T <sub>sink</sub> =85°C, (note 4)	1652	A
I <sub>F(RMS)M</sub>	Nominal RMS forward current, T <sub>sink</sub> =25°C, (note 2)	6236	A
I <sub>F(d.c.)</sub>	D.C. forward current, T <sub>sink</sub> =25°C, (note 5)	5570	A
I <sub>FSM</sub>	Peak non-repetitive surge t <sub>p</sub> =10ms, V <sub>rm</sub> =60%V <sub>RRM</sub> , (note 6)	28	kA
I <sub>FSM2</sub>	Peak non-repetitive surge t <sub>p</sub> =10ms, V <sub>rm</sub> ≤10V, (note 6)	30.8	kA
I <sup>2</sup> t	I <sup>2</sup> t capacity for fusing t <sub>p</sub> =10ms, V <sub>rm</sub> =60%V <sub>RRM</sub> , (note 6)	3.92×10 <sup>6</sup>	A <sup>2</sup> s
I <sup>2</sup> t	I <sup>2</sup> t capacity for fusing t <sub>p</sub> =10ms, V <sub>rm</sub> ≤10V, (note 6)	4.74×10 <sup>6</sup>	A <sup>2</sup> s
T <sub>j op</sub>	Operating temperature range	-55 to +160	°C
T <sub>stg</sub>	Storage temperature range	-55 to +190	°C

#### Notes:-

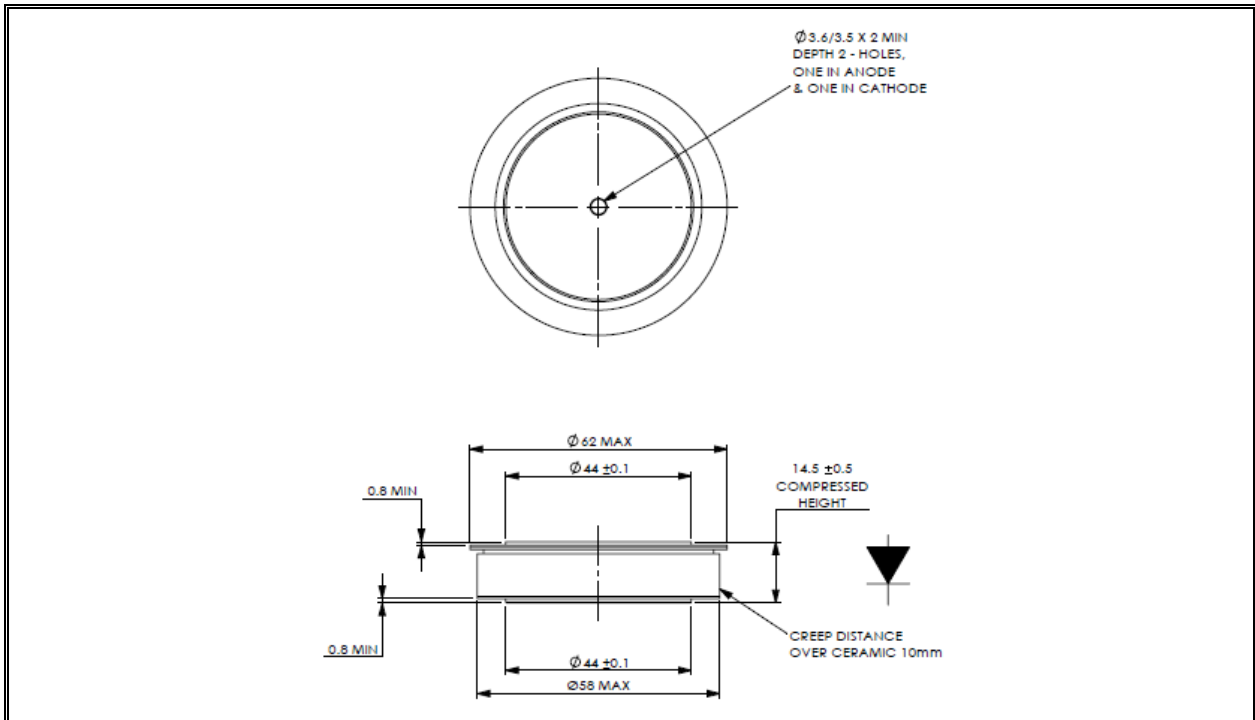
- 1) De-rating factor of 0.13% per °C is applicable for T<sub>j</sub> below 25°C.
- 2) Double side cooled, single phase; 50Hz, 180° half-sinewave.
- 3) Single side cooled (Anode), single phase; 50Hz, 180° half-sinewave.
- 4) Single side cooled (Cathode), single phase; 50Hz, 180° half-sinewave.
- 5) Double side cooled.
- 6) Half-sinewave, 160°C T<sub>j</sub> initial.

### Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V <sub>FM</sub>	Maximum peak forward voltage	-	-	1.5	I <sub>TM</sub> =4500A	V
V <sub>FM</sub>	Maximum peak forward voltage	-	-	2.03	I <sub>TM</sub> =7870A	V
V <sub>T0</sub>	Threshold voltage	-	-	0.78		V
r <sub>T</sub>	Slope resistance	-	-	0.16		mΩ
I <sub>RRM</sub>	Peak reverse current	-	-	50	Rated V <sub>RRM</sub>	mA
I <sub>RRM</sub>	Peak reverse current	-	-	50	Rated V <sub>RRM</sub> , T <sub>j</sub> =25°C	mA
Q <sub>rr</sub>	Recovered charge	-	3100	-	I <sub>TM</sub> =1000A, t <sub>p</sub> =1000μs, di/dt=10A/μs, V <sub>r</sub> =50V	μC
Q <sub>ra</sub>	Recovered charge, 50% Chord	-	2200	2600		μC
I <sub>rr</sub>	Reverse recovery current	-	150	-		A
t <sub>rr</sub>	Reverse recovery time	-	25	-		μs
R <sub>thJK</sub>	Thermal resistance, junction to heatsink	-	-	0.0145	Double side cooled	K/W
		-	-	0.0268	Single side cooled (anode)	K/W
		-	-	0.0317	Single side cooled (Cathode)	K/W
F	Mounting force	19	-	26	(Note 2)	kN
W <sub>t</sub>	Weight	-	250	-		g

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>W3409</b>	<b>NK</b>	<b>◆◆</b>	<b>0</b>
Fixed Type Code	Outline code	Voltage code $V_{\text{DRM}}/100$ 24 & 28	Fixed turn-off time code

 Typical order code: W3409NK280 – 2800V  $V_{\text{DRM}}$ ,  $V_{\text{RRM}}$ ,

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