



Wespack Rectifier Diode

Types W3409NK240 and W3409NK280

Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V _{RRM}	Repetitive peak reverse voltage, (note 1)	2400-2800	V
V _{RSM}	Non-repetitive peak reverse voltage, (note 1)	2500-2900	V

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

Notes:-

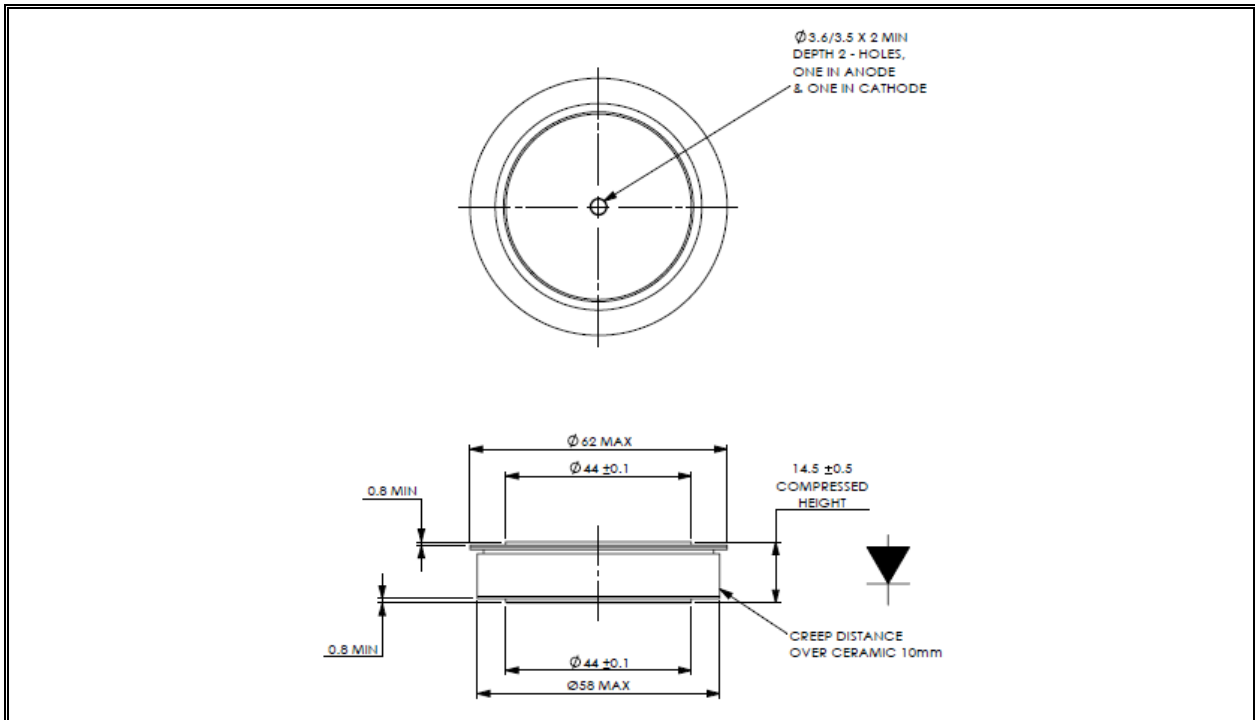
- 1) De-rating factor of 0.13% per °C is applicable for T_j below 25°C.
- 2) Double side cooled, single phase; 50Hz, 180° half-sinewave.
- 3) Single side cooled (Anode), single phase; 50Hz, 180° half-sinewave.
- 4) Single side cooled (Cathode), single phase; 50Hz, 180° half-sinewave.
- 5) Double side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

Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V _{FM}	Maximum peak forward voltage	-	-	1.5	I _{TM} =4500A	V
V _{FM}	Maximum peak forward voltage	-	-	2.03	I _{TM} =7870A	V
V _{T0}	Threshold voltage	-	-	0.78		V
r _T	Slope resistance	-	-	0.16		mΩ
I _{RRM}	Peak reverse current	-	-	50	Rated V _{RRM}	mA
I _{RRM}	Peak reverse current	-	-	50	Rated V _{RRM} , T _j =25°C	mA
Q _{rr}	Recovered charge	-	3100	-	I _{TM} =1000A, t _p =1000μs, di/dt=10A/μs, V _r =50V	μC
Q _{ra}	Recovered charge, 50% Chord	-	2200	2600		μC
I _{rr}	Reverse recovery current	-	150	-		A
t _{rr}	Reverse recovery time	-	25	-		μs
R _{thJK}	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 _t	Weight	-	250	-		g

Notes:-

- 1) Unless otherwise indicated T_j=160°C.
- 2) For other clamp forces, please consult factory.

Outline Drawing & Ordering Information

ORDERING INFORMATION

(Please quote 10-digit code as below)

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

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

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