Phase Control Thyristors (Capsule Type)

Features

- Metal case with ceramic insulator
- High current rating
- Bifacial cooled
- Center gate trigger



A-24 (K-PUK)

Applications

- DC motor controls
- AC controllers
- DC power supplies

Voltage Ratings

Type number	Voltage Code	V_{DRM}/V_{RRM}, Maximum Repetitive peak & off-state voltage V	V_{RSM}, Maximum non-repetitive peak voltage V	I_{DRM}/I_{RRM}, Maximum at T_J = T_J maximum mA
1004DCR	40	400	500	60
	60	600	700	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	

Electrical Ratings (T_J = 25^{0}C, unless otherwise specified)

Parameters	Symbol	Values	Units
Maximum on-state average current 180^O sinusoidal conduction @ T_C = 55^{0}C	$I_{T(AV)}$	1000	A
Maximum RMS on-state current	$I_{T(RMS)}$	1570	A
Maximum peak, one cycle non-repetitive surge current	I_{TSM}	18000	A
Maximum I^2t for fusing @ t = 10ms	I^2t	1620	kA^2s
Maximum repetitive peak on and off-state voltage range	V_{RRM}, V_{DRM}	400 to 1600	V
Maximum peak on-state voltage (T_J = 125^{0}C, I_{peak} = 1100A)	V_{TM}	2.0	V
Maximum holding current @ T_J = 25^{0}C	I_H	250	mA
Maximum latching current @T_J = 25^{0}C	I_L	800	mA
Threshold voltage	V_{T0}	1.12	V
Slope resistance	r_T	0.25	mΩ

Switching Ratings (T_J = 25^{0}C, unless otherwise specified)

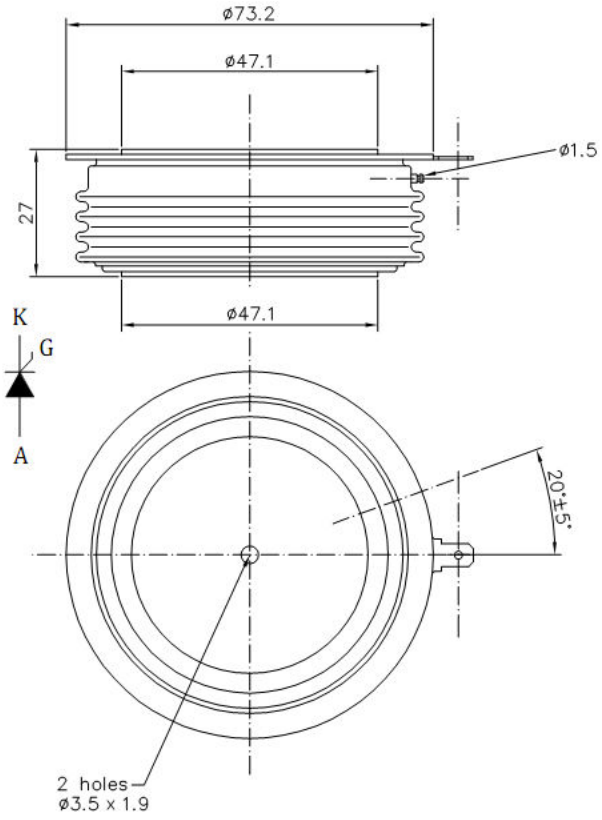
Parameters	Symbol	Values	Units
Rate of rise of turn-on current @ T_J = T_J max, anode voltage ≤ 80% V_{DRM}	di/dt	200	A/µs
Typical turn-on time	t_d	10	µs
Typical turn-off time	t_q	200	

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Blocking Parameters (T_J = 25^{0}C, unless otherwise specified)			
Parameters	**Symbol**	**Values**	**Units**
Critical rate of rise of off-state voltage @ $T_J = T_J$ max, linear to 80% rated V_{DRM}	dV/dt	500	V/µs
Maxmimum peak reverse & off-state leakage current @ $T_J = T_J$ max, rated V_{DRM}/V_{RRM} applied	I_{RRM}, I_{DRM}	60	mA

Triggering Parameters (T_J = 25^{0}C, unless otherwise specified)			
Parameters	**Symbol**	**Values**	**Units**
DC gate current to trigger	I_{GT}	200	mA
DC gate voltage to trigger	V_{GT}	3.0	V

Thermal and Mechanical Specifications (T_J = 25^{0}C, unless otherwise specified)			
Parameters	**Symbol**	**Values**	**Units**
Maximum operating junction temperature range	T_J	- 40 to +125	^{0}C
Maximum storage temperature range	T_{Stg}	- 40 to +125	^{0}C
Maximum thermal resistance, junction to case	$R_{th(JC)}$	0.031	^{0}C/W
Mounting torque	F	16 … 22	kN
Approximate weight	W_T	490	g



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