

## Phase Control Thyristors (Capsule Type), 800A

**Features**

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

**Applications**

- DC motor controls
- AC controllers
- DC power supplies



TO-200AC (B-PUK)

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
804DCR	40	400	500	50
	60	600	700	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	

Electrical Ratings ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)			
Parameters	Symbol	Values	Units
Maximum on-state average current 180° sinusoidal conduction @ $T_C = 55^\circ\text{C}$	$I_{T(AV)}$	800	A
Maximum RMS on-state current	$I_{T(RMS)}$	1256	A
Maximum peak, one cycle non-repetitive surge current	$I_{TSM}$	12000	A
Maximum $I^2t$ for fusing @ $t = 10\text{ms}$	$I^2t$	218	$\text{A}^2\text{s}$
Maximum repetitive peak on and off-state voltage range	$V_{RRM}, V_{DRM}$	200 to 1600	V
Maximum peak on-state voltage ( $T_J = 125^\circ\text{C}$ , $I_{peak} = 1100\text{A}$ )	$V_{TM}$	1.7	V
Maximum holding current @ $T_J = 25^\circ\text{C}$	$I_H$	300	mA
Maximum latching current @ $T_J = 25^\circ\text{C}$	$I_L$	800	mA
Threshold voltage	$V_{TO}$	0.99	V
Slope resistance	$r_T$	0.75	$\text{m}\Omega$

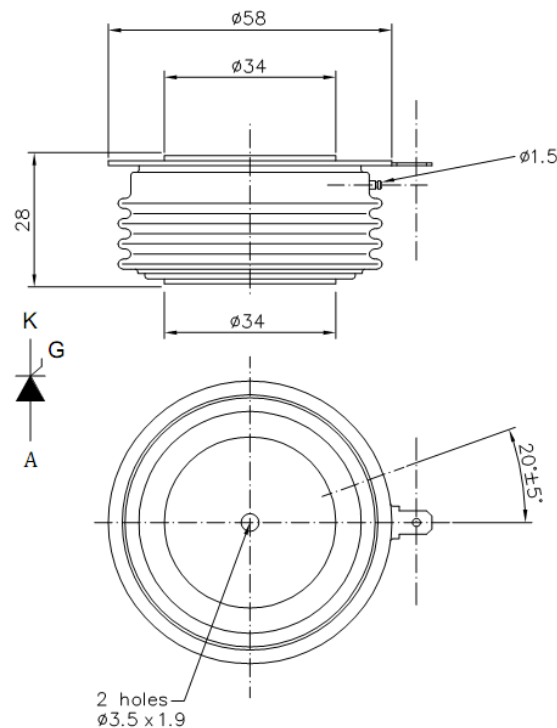
Switching Ratings ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)			
Parameters	Symbol	Values	Units
Rate of rise of turn-on current @ $T_J = T_J$ max, anode voltage $\leq 80\% V_{DRM}$	$di/dt$	200	$\text{A}/\mu\text{s}$
Typical turn-on time	$t_d$	12	$\mu\text{s}$
Typical turn-off time	$t_q$	200	

Blocking Parameters ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)			
Parameters	Symbol	Values	Units
Critical rate of rise of off-state voltage @ $T_J = T_J \text{ max}$ , linear to 80% rated $V_{\text{DRM}}$	$dV/dt$	500	$\text{V}/\mu\text{s}$
Maximum peak reverse & off-state leakage current @ $T_J = T_J \text{ max}$ , rated $V_{\text{DRM}}/V_{\text{RRM}}$ applied	$I_{\text{RRM}}, I_{\text{DRM}}$	50	mA

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

Thermal and Mechanical Specifications ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)			
Parameters	Symbol	Values	Units
Maximum operating junction temperature range	$T_J$	- 40 to +125	$^\circ\text{C}$
Maximum storage temperature range	$T_{\text{Stg}}$	- 40 to +125	$^\circ\text{C}$
Maximum thermal resistance, junction to case	$R_{\text{th}(JC)}$	0.045	$^\circ\text{C}/\text{W}$
Mounting torque	F	12 .. 14	kN
Approximate weight	$W_T$	260	g

## Package Outline



ALL DIMENSIONS IN MM



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**Ordering Table**

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<i>804</i>	<i>DCR</i>	<i>160</i>
<b>1</b>	<b>2</b>	<b>3</b>

1 – Current Rating =  $I_F (AV)$

2 – Phase Controlled Thyristor, PUK Type

3 – Voltage x 10 =  $V_{RRM}$  (See Voltage Ratings Table)