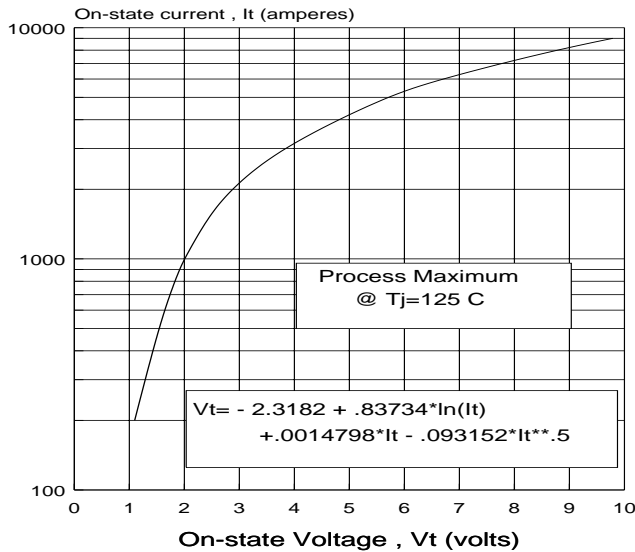


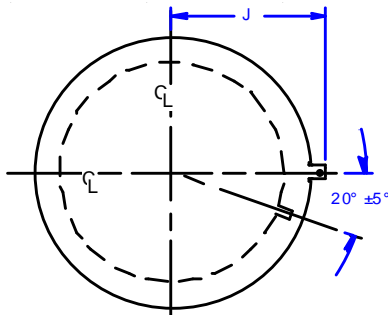
Type C717 thyristor is suitable for phase control applications such as HMDC valves, static VAR compensators and synchronous motor drives.

The silicon junction is manufactured by the proven multi-diffusion process and is supplied in an industry standard disc-type package, ready to mount to forced or naturally cooled heat dissipators using commercially available mechanical clamping hardware.

**ON-STATE CHARACTERISTIC**



**MECHANICAL OUTLINE**



A  $\Phi$  = 2.96 in (75.2 mm)  
B  $\Phi$  = 1.90 in (48.3 mm)  
D = 1.07 in (27.2 mm)

**PRINCIPAL RATINGS AND CHARACTERISTICS**

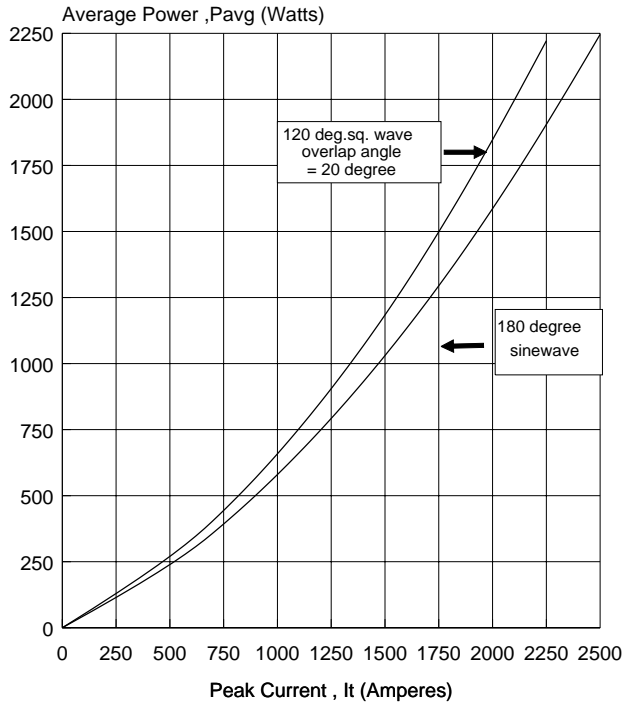
Repetitive peak off-state & reverse volts	$V_{DRM}$ $V_{RRM}$	$T_J=0$ to 125°C	up to 4500	V
Repetitive working crest voltage	$V_{DWM}$ $V_{DRM}$	$T_J=0$ to 125°C	0.8V <sub>DRM</sub> 0.8V <sub>RRM</sub>	
Off-state & reverse leakage current	$I_{DWM}$ $I_{RRM}$	$T_J=0$ to 125°C	75 75	ma
Average on-state current	$I_{T(AV)}$	$T_{case} = 70^\circ\text{C}$	800	A
Peak half-cycle non-rep surge current	$I_{TSM}$	60 Hz 50 Hz	9 8	kA
On-state voltage	$V_{TM}$	$I_T=1\text{kA}$ $t_b=8\text{ms}$ $T_J=125^\circ\text{C}$	2.0	V
Critical rate of rise of on-state current	$di/dt_{sp}$	$T_J=125^\circ\text{C}$ 60 Hz	75	A/us
Critical rate of rise of off-state voltage	$dv/dt$	$T_J=125^\circ\text{C}$ $V_D = .67V_{DRM}$	1000	V/us
Recovery current	$I_{RM}$	$T_J=125^\circ\text{C}$ 2A/us 5A/us	60 100	A
Turn-on delay	$t_a$	$V_d = .5V_{DRM}$	3	us
Turn-off time	$T_{off}$	5A/us, -100V 20V/us to 2000V	500	us
Thermal resistance	$R_{thJC}$		.025	c/w
Externally applied clamping force	F		5500 24.5	lb. kN

**REPETITIVE PEAK REVERSE AND OFF-STATE BLOCKING VOLTAGE**

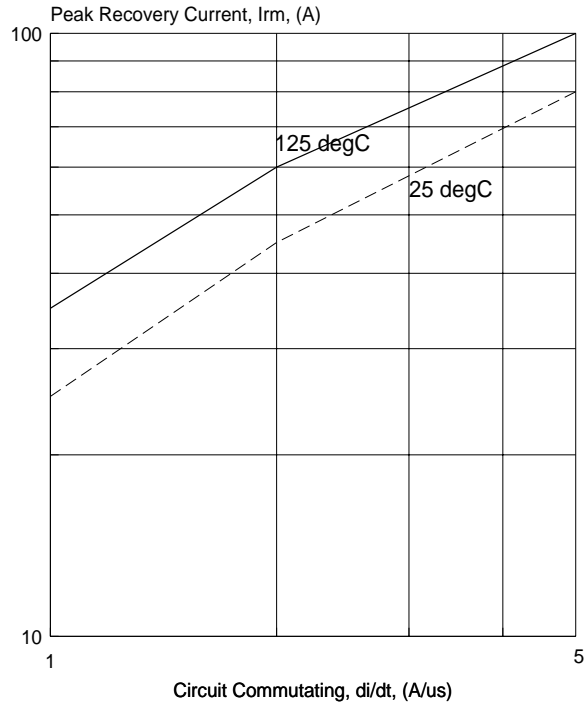
$T_J = 0$  to 125°C

MODEL	$V_{DRM}$ (volts)	$V_{RRM}$ (volts)
C717DE	4500	4500
C717DD	4400	4400
C717DC	4300	4300
C717DB	4200	4200
C717DA	4100	4100
C717DP	4000	4000

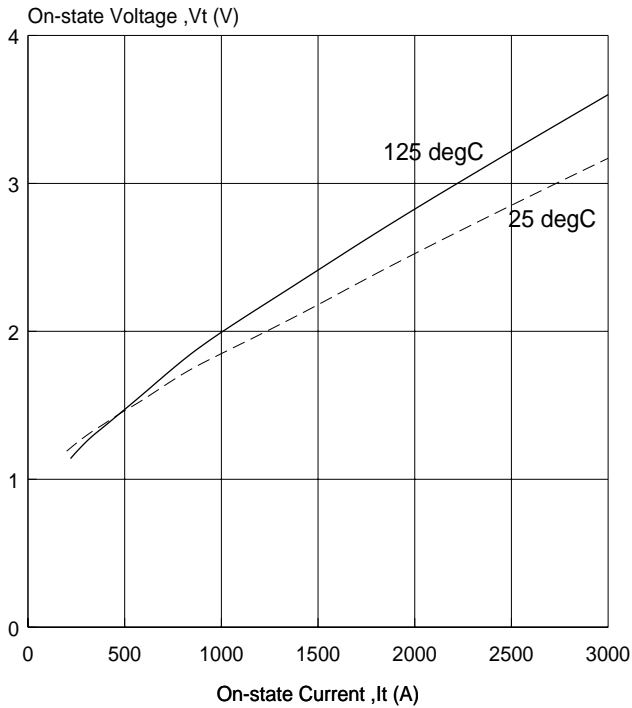
FULL CYCLE AVERAGE POWER LOSS  
versus  
PEAK CURRENT at 50/60 Hz  
(plasma spreading and conduction loss)



MAXIMUM PEAK RECOVERY CURRENT  
versus COMMUTATING di/dt



ON-STATE CHARACTERISTIC  
Temperature Dependence



**GATE SUPPLY REQUIREMENTS**

Open circuit voltage	30 V
Short circuit current	3 A
- rise time	0.5 $\mu$ s
Pulse duration (min)	20 $\mu$ s