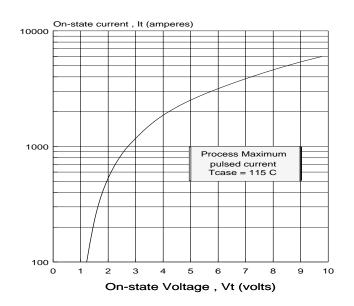


# C716 53mm / 6kV THYRISTOR

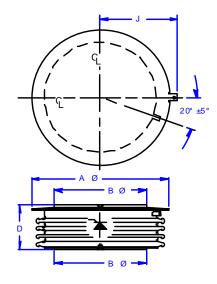
Type C716 thyristor is suitable for phase control applications such as HMDC valves, static VAR compensators and synchronous motor drives.

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)

state & reverse volts $V_{RRM}$ to 115°C 6000  Repetitive working $V_{DRM}$ $T_J$ =0 0.8 $V_{DRM}$ crest voltage $V_{RRM}$ to 115°C 0.8 $V_{RRM}$ off-state & reverse $I_{DRM}$ $T_J$ =0 75 to	v ma
crest voltage $V_{RWM}$ to 115°C 0.8 $V_{RRM}$ off-state & reverse $I_{DWM}$ $T_{J}$ =0 75 t	ma
leakage current. I <sub>kwm</sub> to 115℃ 75	
Average on-state $I_{r(aV)}$ $T_{cose} = 550$ current $70^{\circ}\mathrm{C}$	A
Peak half-cycle I <sub>rsm</sub> 60 Hz 6 l non-nep surge current 50 Hz 5.5	kΑ
On-state voltage $V_{_{TM}}$ $I_{_T}$ =500A 2.00 $V_{_T}$ $V_{_T}$ =8ms $V_{_T}$ =115°C	V
Chitical mate of nise di√dt Tj=115°C 50 i of on-state ouncent map 60 Hz	A/us
V <sub>d</sub> =.67V <sub>DRM</sub> allowible snitter distrange 50	A
Oritical rate of rise of v/dit $T_{_J}$ = 115 °C 1500 of off-state voltage $V_{_{\rm DRRT}}$ = 60 % $V_{_{\rm DRM}}$	V/us
2A/us 60 5A/us 100	A
minimum snep factor S = 0.3	
Turm-on delay $t_a$ Vd=.5V $_{_{\mathrm{DRM}}}$ 5	us
Turn-off time $T_{\rm eff}$ 5A/us,-100V 600 $^{\circ}$ 20V/us to 2000V	us
Thermal resistance $R_{\rm thX}$ .025	c/w
	lbs. kN

	REPET	ITIVE PEAR	K REVERSE		
	<u>AND</u> O	FF-STATE	BLOCKING		
	<u>VOLTAGE</u>				
	$T_{+}=0$ to $115^{\circ}C$				
	MODEL	$V_{DRM}$	V <sub>RRM</sub>		
		(volts)	(valts)		
(	C716FP	6000	6000		
(	C716ET	5900	5900		
(	C716EN	5800	5800		
(	C716ES	5700	5700		
(	C716EM	5600	5600		
(	C716EE	5500	5500		

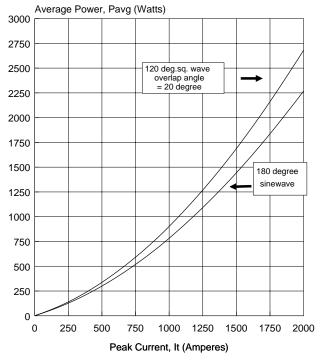


### FULL CYCLE AVERAGE POWER LOSS

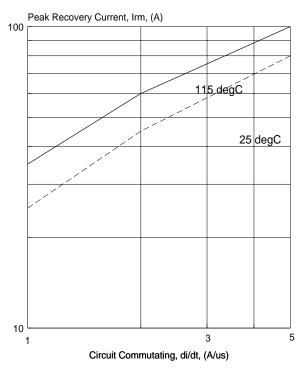
#### versus

#### PEAK CURRENT at 50/60 Hz

(plasma spreading and conduction loss)



## MAXIMUM PEAK RECOVERY CURRENT versus COMMUTATING di/dt



c716los1(vt=2.0)

C716

## Full Cycle Power Loss (watts)

50/60 Hz, T<sub>J</sub>=115°C

I <sub>T</sub> (peak)	Half-sine	3 Phase
(A)	180°	120°
100	45	48
200	97	106
300	157	173
400	224	250
500	299	336
600	381	431
700	470	535
800	566	647
900	670	769
1000	780	899
1200	1023	1186
1400	1293	1508
1600	1590	1864
1800	1914	2255
2000	2268	2680

#### GATE SUPPLY REQUIREMENTS

Open circuit voltage	30 V
Short circuit current - rise time	3 A 0.5.5
Pulse duration (min)	20 us