

#### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
<b>Repetitive peak off-stage voltage, gate open</b> ( $T_J = -65$ to $+110^\circ\text{C}$ )	$V_{\text{DRM}}$	200	Volts
T6400B		400	
T6400D		600	
T6400M		800	
T6400N			
<b>RMS on-state current</b> (conduction angle = $360^\circ$ , $T_C \leq 70^\circ\text{C}$ )	$I_{\text{T(RMS)}}$	40	Amps
<b>Peak non-repetitive surge current</b> (One Cycle, 60Hz)	$I_{\text{TSM}}$	300	Amps
<b>Circuit fusing considerations</b> ( $T_J = -65$ to $+110^\circ\text{C}$ , $t = 1.25$ to $10\text{ms}$ )	$I^2t$	450	$\text{A}^2\text{s}$
<b>Peak gate power</b> (pulse width = $10\mu\text{s}$ )	$P_{\text{GM}}$	40	Watts
<b>Average gate power</b>	$P_{\text{G(AV)}}$	0.75	Watts
<b>Peak gate current</b> (pulse width $\leq 10\mu\text{s}$ )	$I_{\text{GM}}$	12	Amps
<b>Operating junction temperature range</b>	$T_J$	$-65$ to $+110$	$^\circ\text{C}$
<b>Storage temperature range</b>	$T_{\text{stg}}$	$-65$ to $+150$	$^\circ\text{C}$
<b>Stud torque</b>		30	In. lb.

#### THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal resistance, junction to case	$R_{\theta\text{JC}}$	0.8	$^\circ\text{C}/\text{W}$

#### ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ and either polarity of MT2 to MT1 voltage, unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit	
<b>Peak off state current</b> ( $V_D = V_{\text{DRM}}$ , gate open, $T_J = 110^\circ\text{C}$ )	$I_{\text{DRM}}$	-	-	4	mA	
<b>Peak on-state voltage</b> (either direction) ( $I_{\text{TM}} = 100\text{A}$ peak)	$V_{\text{TM}}$	-	1.5	2.0	Volts	
<b>DC gate trigger current</b> (continuous dc) ( $V_D = 12\text{V}$ , $R_L = 30\Omega$ )	$I_{\text{GT}}$	-	MT2(+), G(+)	15	50	mA
MT2(+), G(-)			30	80		
MT2(-), G(-)			20	50		
MT2(-), G(+)			40	80		
MT2(+), G(+); MT2(-), G(-), $T_C = -65^\circ\text{C}$			-	-	125	
MT2(+), G(-); MT2(-), G(+), $T_C = -65^\circ\text{C}$			-	-	240	
<b>DC gate trigger voltage</b> (continuous dc), all trigger modes ( $V_D = 12\text{V}$ , $R_L = 30\Omega$ ) ( $V_D = 12\text{V}$ , $R_L = 30\Omega$ , $T_C = -65^\circ\text{C}$ ) ( $V_D = \text{Rated } V_{\text{DRM}}$ , $R_L = 125\Omega$ , $T_C = 110^\circ\text{C}$ )	$V_{\text{GT}}$	-	1.35	2.5	Volts	
	-	-	3.4			
	0.2	-	-			

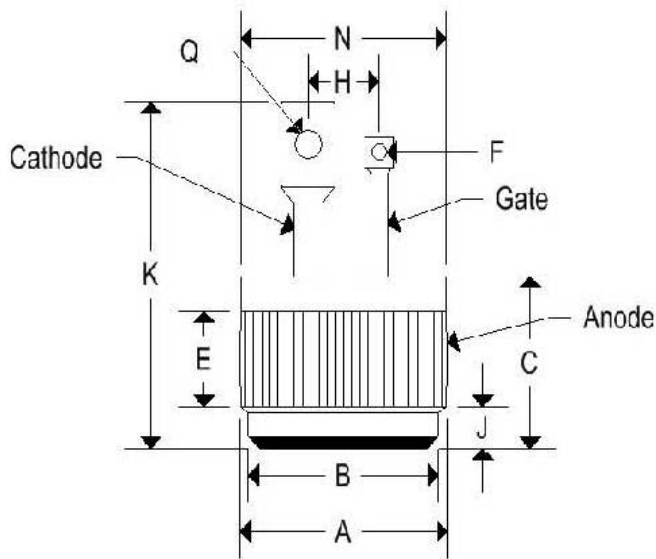
# T6400 SERIES

## BIDIRECTIONAL TRIODE THYRISTORS

<b>Holding current</b> (either direction) $(V_D = 12V, \text{gate open}, I_T = 500mA, T_C = 25^\circ C)$ $(V_D = 12V, \text{gate open}, I_T = 500mA, T_C = -65^\circ C)$	$I_H$	-	25	60	mA
		-	-	100	
<b>Gate controlled turn on time</b> $(V_D = \text{Rated } V_{DRM}, I_T = 60A, I_{GT} = 200mA, \text{rise time} = 0.1\mu s)$	$t_{gt}$	-	1.7	3	$\mu s$
<b>Critical rate of rise of commutating voltage</b> $(\text{commutating } di/dt = 22A/ms, \text{gate unenergized}, V_D = \text{Rated } V_{DRM}, I_{T(RMS)} = 40A, T_C = 70^\circ C)$	$dv/dt(c)$	-	5	-	$V/\mu s$

### MECHANICAL CHARACTERISTICS

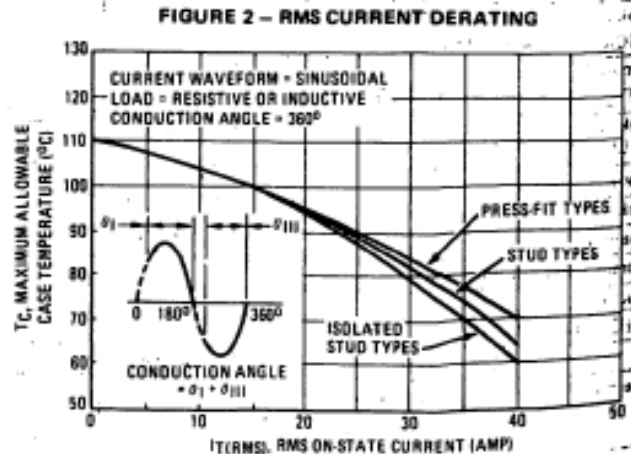
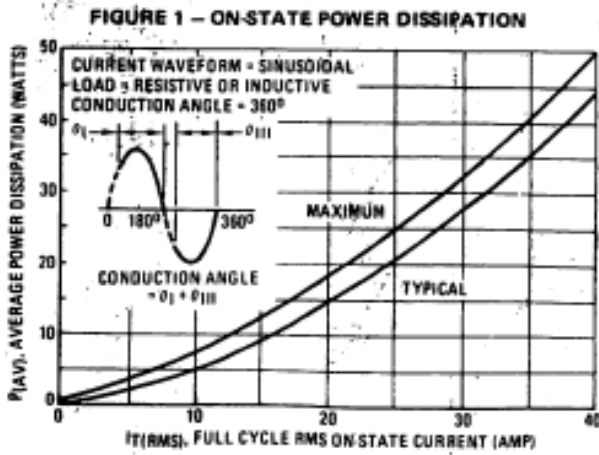
Case	Digi PF1
Marking	Alpha-numeric



DIGI PF1				
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.501	0.505	12.730	12.830
F	-	0.160	-	4.060
G	0.085	0.095	2.160	2.410
H	0.060	0.070	1.520	1.780
J	0.300	0.350	7.620	8.890
K	-	1.050	-	26.670
L	-	0.670	-	17.020
Q	0.055	0.085	1.400	2.160

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