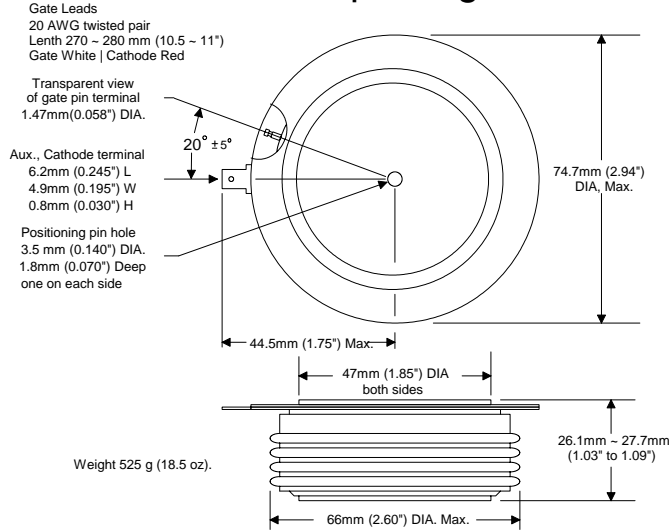


H package



Part number scheme

H T 17 F 18 KNX
 1 2 3 4 5 6

- 1) Package designation
- 2) Thyristor designation (i.e. SCR)
- 3) Series number
- 4) Designates fast recovery
- 5) Voltage Multiplier (example: 18 x 100 = 1800)
- 6) Proprietary suffix

Features:

- ✓ All diffused silicone.
- ✓ Center amplifying gate.
- ✓ Fast recovery time for inverter applications.
- ✓ Disk press package (nick named, Hockey Puck)
- ✓ Metal and ceramic package construction.
- ✓ Double side cooling.

Voltage

Parameter	Symbol	Rating	Units
Maximum Repetitive Off-State Voltage <small>Notes: 1, 3, 4, 5, 6, 7</small>	V_{DRM}	1600 ~ 2000	Volts
Maximum Repetitive Reverse Voltage <small>Notes: 1, 3, 4, 5, 6</small>	V_{RRM}	1700 ~ 2100	Volts
Maximum non repetitive Surge of Reverse Voltage <small>Notes: 2, 3, 4, 5, 6</small>	V_{RSM}	$V_{RRM} + 100$	Volts
Critical rate of rising off-state Voltage, Linear to 80% of V_{DRM} <small>Note: 2</small>	dv/dt	500	V/ μ s
<small>Note 1: T_J 25°C. Note 2: T_J 125°C. Note 3: Measured at the peak of the sine wave, Note 4: Below 0°C derate V_{DRM} and V_{RRM} 10%. Note 5: V_{DRM} and V_{RRM} have I_{DRM}, I_{RRM} of up to 65mA. Note 6: V_{DR} and V_{RR} have typical I_{DR}, I_{RR} of 2~7mA. Note 7: For DC applications derate V_{DRM} 45%.</small>			
Specifying voltage:	1400V, HT17F14 1200V, HT17F12 1600V, HT17F16 2000V, HT17N20	1800V, HT17N18	Above 2000V inquire for availability.

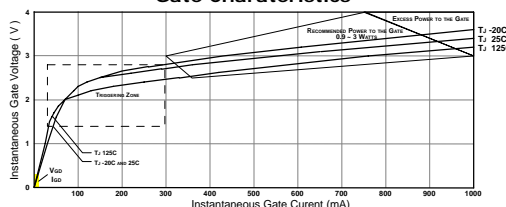
Gate

Parameter	Symbol	Rating			Units
		Temp.	Typ.	Max.	
Gate Trigger Voltage <small>Note 3</small>	V_{GT}	-20°C 25°C 125°C	2.3 ~ 2.8 1.9 ~ 2.4 1.4 ~ 1.6	3	Volts
Maximum Gate Trigger Current <small>Notes 1,3</small>	I_{GT}		300		mA
Minimum anode cathode Current to Latch on-state <small>Notes 1, 5</small>	I_L		800		mA
Maximum permissible Gate Voltage not to Trigger <small>Notes 1,3</small>	V_{GDM}		250		mV
Maximum permissible Gate Current not to Trigger <small>Notes 1, 3</small>	I_{GDM}		10		mA
Maximum peak non repetitive Gate Voltage <small>Notes 2, 3</small>	V_{GM}		8.4		Volts
Maximum Negative Gate Voltage <small>Notes 2, 4</small>	$-V_{GM}$		5		Volts
Maximum non repetitive Gate Current <small>Notes 2, 3</small>	I_{GM}		3.7		Amperes
Maximum Repetitive Gate Current <small>Notes 2, 3</small>	I_{GRM}		1		Amperes
Average Gate Power (recommended) <small>Note 2, 3</small>	$P_{G(AVE)}$		0.9 ~ 3		Watts
<small>Note 1: T_J 25°C. Note 2: T_J 125°C. Note 3: Rectangular pulse, $t_p \leq 8.3$ ms. Note 4: Rectangular $-V_{DC}$ pulse, $t_p \leq 8.3$ ms. Note 5: Test conditions: I_{DC} R_{θ} = 12Ω.</small>					

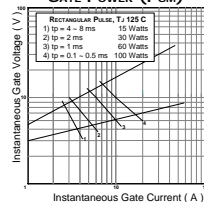
Dynamics

Parameter	Symbol	Rating		Units
Turn on delay time <small>Note: 2.</small>	t_d	Typ.	Max.	μ s
Turn off time <small>Notes: 2, 3, 4, 5, 6, 7, 8.</small>	t_q	-	50	μ s
Reverse recovery charge <small>Notes: 3, 4, 7.</small>	Q_{RR}	2,000	Note 1	μ C
<small>Note 1: Contact factory to specify maximum. Note 2: $T_J = 125^\circ$ C. Note 3: $I_{TM} = 1000$ A. Note 4: $V_R \geq -50$ V. Note 5: Reapplied $dV/dt = 200$ V/μs. Note 6: V/μs linear to 80% of V_{DRM}. Note 7: $di/dt = 25$ A/μs. Note 8: $V_G = 0$.</small>				

Gate Characteristics



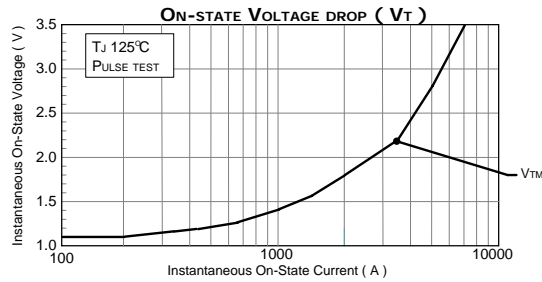
Maximum non repetitive GATE POWER (PGM)



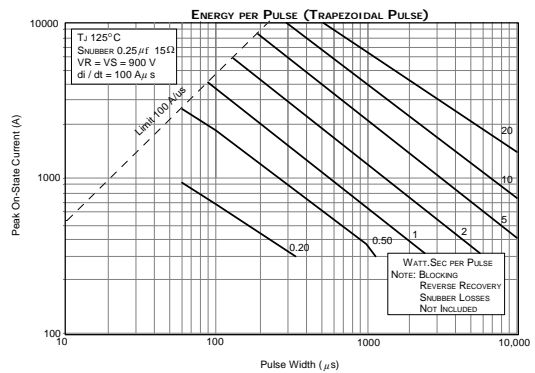
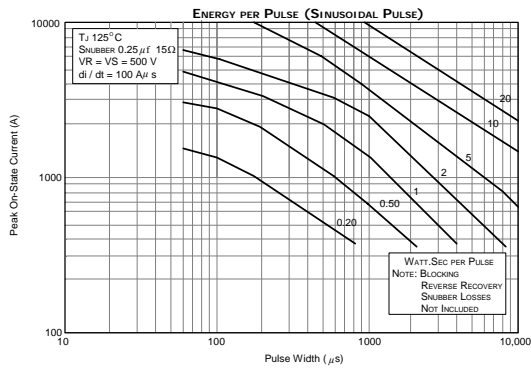
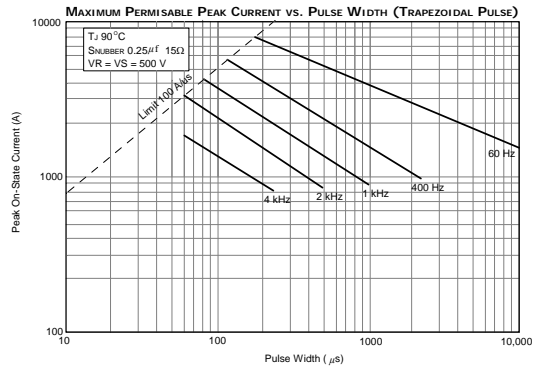
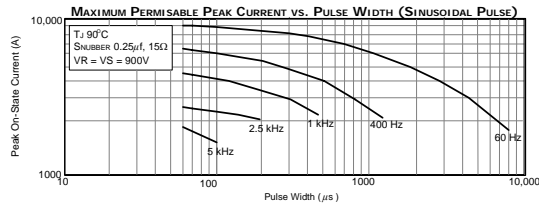
These graphs depict a typical device, each device has unique characteristics

Current

Parameter	Symbol	Rating	Units
Maximum, RMS, On state, Current <small>Notes: 3, 4</small>	$I_{T(RMS)}$	1700	Amperes
Maximum non repetitive, Surge, On state, Current, with no reverse voltage reapplied. <small>Notes: 2, 4</small>	$I_{TSM} 0\% V_{RRM}$	20	kA
Maximum non repetitive, Surge, On state, Current, with maximum reverse voltage reapplied. <small>Notes: 2, 4</small>	$I_{TSM} 100\% V_{RRM}$	17	kA
Critical rate of rising On-state Current, non repetitive <small>Note: 6, 7</small>	di/dt	800	A/ μ s
Holding Current <small>Notes: 1, 5</small>	I_H	500	mA
I_{DR} = Repetitive, Off-State, leakage Current (typical) <small>Note: 1</small> I_{RR} = Repetitive, Reverse, leakage Current. (typical) <small>Note: 1</small>	I_{DR} & I_{RR}	2 ~ 7	mA
I_{DRM} = Maximum (threshold), Repetitive, Off-State, Current. <small>Note: 1</small> I_{RRM} = Maximum (threshold), Repetitive, Reverse, Current. <small>Note: 1</small>	I_{DRM} & I_{RRM}	65	mA
Fuse's absolute maximum $I^2 t$ with no reverse voltage reapplied <small>Note: 2, 4</small>	$I^2 t, 0\% V_{RR}$	1660	kA
Fuse's absolute maximum $I^2 t$ with up to 80% of V_{RRM} reapplied <small>Note: 2, 4</small>	$I^2 t, \leq 80\% V_{RRM}$	1130	kA
Note 1: $T_J 25^\circ C$. Note 2: $T_J 125^\circ C$. Note 3: $T_{Case} 55^\circ C$, double side air cooled. Note 4: 60 Hz, Sinusoidal		Note 5: Test conditions: $I_{DC} R_L = 12\Omega$. Note 6: Switching from $V_{DRM} \leq 1000V$ Note 7: In addition to 0.2 μ F and 20 Ω snubber circuit	



These graphs depict a typical device, each device has unique characteristics



Thermal & Mechanical

Parameter	Symbol	Rating	Units
Operating Temperature Range	T_J	-40° ~ 125°	°Celsius
Maximum Thermal resistance, Junction to Case <small>Notes:1, 3, 5</small>	R_{th-J-C}	0.025	°C/W
Maximum Thermal resistance, Case to Heat Sink <small>Notes: 1, 2, 3, 4, 5</small>	$R_{th-C-HS}$	0.01	°C/W
Mounting Pressure		2500 ~ 2700	kg
		5500 ~ 6000	lb.
Note 1: Recommended mounting pressure applied		Note 2: Mounting surfaces flat and greased	
Note 4: Case Temperature measured at aux., cathode		Note 3: Double side cooled	
Note 5: 180° on-state			