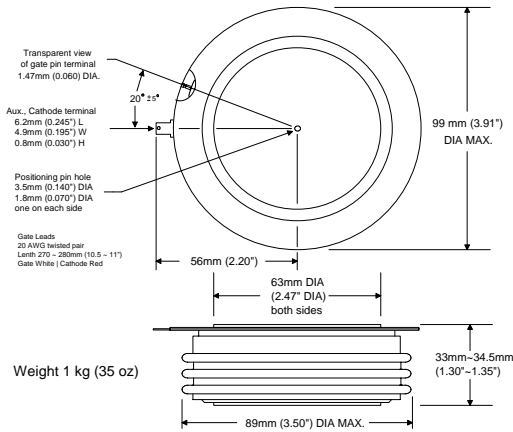


## Y package



Part number scheme

**Y T 17 N 16 KNX**  
 1 2 3 4 5 6

- 1) Package designation
- 2) Thyristor designation (i.e. SCR)
- 3) Series number
- 4) Designates standard recovery time
- 5) Voltage Multiplier (example: 16 x 100 = 1600)
- 6) Proprietary suffix

### Features:

- ✓ All diffused silicone.
- ✓ Center amplifying gate.
- ✓ Standard recovery time for phase control 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 ~ 2500	Volts
Maximum Repetitive Reverse Voltage <small>Notes: 1, 3, 4, 5, 6</small>	$V_{RRM}$	1600 ~ 2500	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	$V/\mu s$
<small>Note 1: <math>T_J</math> 25°C. Note 2: <math>T_J</math> 125°C. Note 3: Measured at the peak of the sine wave, Note 4: Below 0°C derate <math>V_{DRM}</math> and <math>V_{RRM}</math> 10%.            Note 5: <math>V_{DRM}</math> and <math>V_{RRM}</math> have <math>I_{DRM}</math>, <math>I_{RRM}</math> of up to 50mA. Note 6: <math>V_{DR}</math> and <math>V_{RR}</math> have typical <math>I_{DR}</math>, <math>I_{RR}</math> of 3-7mA. Note 7: For DC applications derate <math>V_{DRM}</math> 45%.</small>			
Specifying voltage:	1800V, YT17N18 1600V, YT17N16	2500V, YT17N25 Above 2500V 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>	$I_L$		500		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: <math>T_J</math> 25°C. Note 2: <math>T_J</math> 125°C. Note 3: Rectangular pulse, <math>t_p \leq 8.3</math> ms. Note 4: Rectangular <math>-V_{DC}</math> pulse, <math>t_p \leq 8.3</math> ms. Note 5: Test conditions: <math>I_{DC}</math>, <math>R_L = 12\Omega</math>.</small>					

## Amperage

Parameter	Symbol	Rating	Units
Maximum, Average, On state, Current <small>Notes: 3, 4</small>	$I_{T(AVE)}$	1650	Amperes
Maximum, RMS, On state, Current <small>Notes: 3, 4</small>	$I_{T(RMS)}$	2500	Amperes
Maximum non repetitive, Surge, On state, Current, with no reverse voltage reapplied. <small>Notes: 2, 4</small>	$I_{TSM} 0\% V_{RRM}$	22.1	kA
Maximum non repetitive, Surge, On state, Current, with maximum reverse voltage reapplied. <small>Notes: 2, 4</small>	$I_{TSM} 100\% V_{RRM}$	19	kA
Critical rate of rising On-state Current, non repetitive <small>Note: 6, 7</small>	$di/dt$	500	$A/\mu s$
Maximum On-State Forward Voltage <small>Notes: 1, 4</small>	$I_{TM} @ 3000A$	1.8	Volts
Holding Current <small>Notes: 1, 5</small>	$I_H$	800	mA
$I_{DRM}$ = Maximum (threshold), Repetitive, Off-State, Current. <small>Note: 1</small>	$I_{DRM}$ & $I_{RRM}$	50	mA
$I_{RRM}$ = Maximum (threshold), Repetitive, Reverse, Current. <small>Note: 1</small>			
Fuse's absolute maximum $I^2 t$ with no reverse voltage reapplied <small>Note: 2, 4</small>	$I^2 t, 0\% V_{RR}$	2722	kA
Fuse's absolute maximum $I^2 t$ with up to 80% of $V_{RRM}$ reapplied <small>Note: 2, 4</small>	$I^2 t, \leq 80\% V_{RRM}$	1462	kA
Reverse Recovery Charge ( $C_S$ = Stored Charge)	$Q_{RR}$	Consult factory	$\mu C_S$
<small>Note 1: <math>T_J</math> 25°C. Note 2: <math>T_J</math> 125°C. Note 3: <math>T_{Case}</math> 55°C, double side air cooled. Note 4: 180° conduction, 60Hz sine wave.            Note 5: Test conditions: <math>I_{DC}</math>, <math>R_L = 12\Omega</math>. Note 6: Switching from <math>V_{DRM} \leq 1000V</math> Note 7: In addition to 0.2<math>\mu F</math> and 20<math>\Omega</math> snubber circuit</small>			

## 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>	$R_{th-J-C}$	0.015	°C/W
Maximum Thermal resistance, Case to Heat Sink <small>Notes: 1, 2, 3, 4, 5</small>	$R_{th-C-HS}$	0.002	°C/W
Mounting Pressure		3600 ~ 4500	kg
		8000 ~ 10000	lb.
<small>Note 1: Recommended mounting pressure applied Note 2: Mounting surfaces flat and greased Note 3: Double side cooled            Note 4: Case Temperature measured at aux., cathode Note 5: 180° on-state</small>			