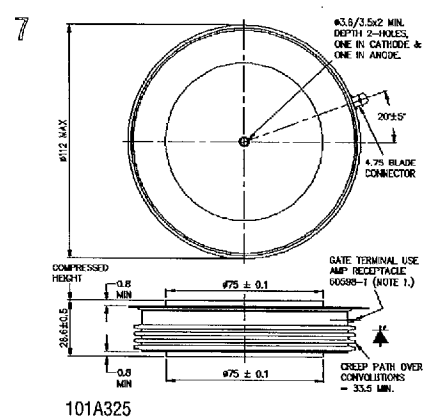
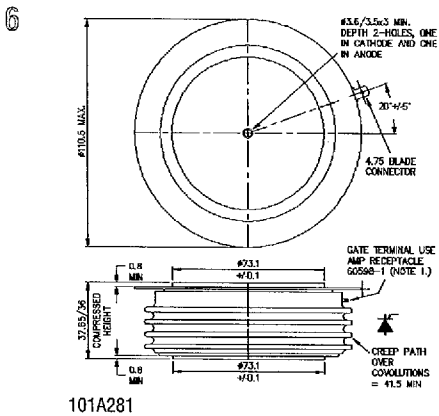
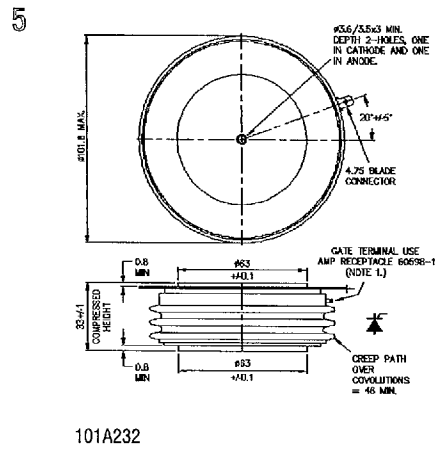
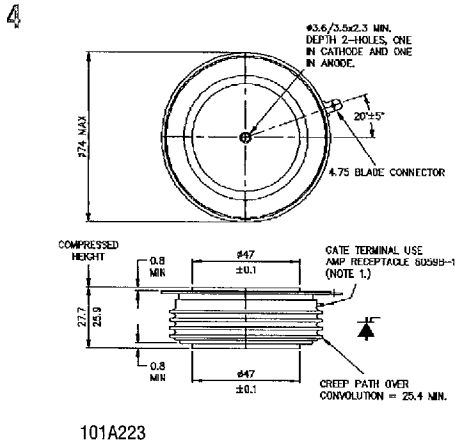
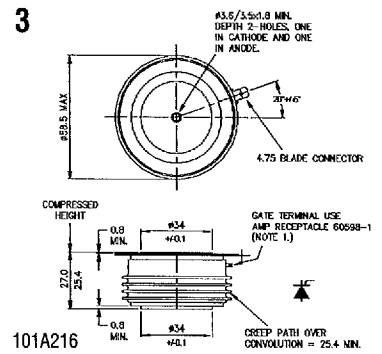
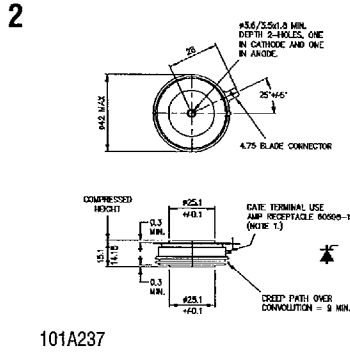
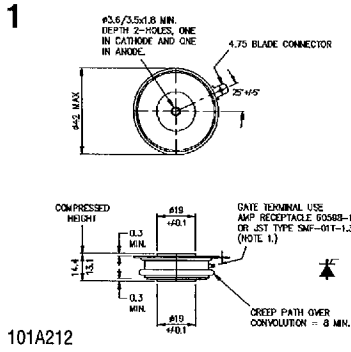


# Phase Control Thyristors ~ Capsule types

Type	$V_{DRM}$ $V_{RRM}$ Range  (Note 5) (V)	$I_{T(AV)}$ $T_{hs}$ 55°C (A)	$I_{T(RMS)}$ @ 25°C (A)	$I_T$ @ 25°C (A)	$I_{TSM(1)}$ 10ms $V_R \leq 60\%$ $V_{RRM}$ (Note 1) (A)	$I_{TSM(2)}$ 10ms $V_R \leq 10V$ (Note 1) (A)	$I^2t_{(2)}$  (Note 1) (A's)	di/dt Non- Rep/Rep  (Note 4) (A / $\mu$ s)	$I_{GT}/V_{GT}$  25°C (mA) (V)
N086CHx	200-1500	195	390	320	1700	1950	19 x 10 <sup>3</sup>	1000/500	150/3
N105CHx	200-1500	256	500	440	2450	2695	36.3 x 10 <sup>3</sup>	1000/500	150/3
N170CHx	200-1500	340	674	575	4200	4620	107 x 10 <sup>3</sup>	1000/500	150/3
N195CHx	200-1500	390	780	668	4650	5120	131 x 10 <sup>3</sup>	1000/500	150/3
N275CHx	200-800	490	986	818	6000	6600	218 x 10 <sup>3</sup>	1000/500	150/3
N282CHx	2000-2200	607	1202	1029	7100	7810	305 x 10 <sup>3</sup>	600/300	200/3
N281CHx	1200-1800	680	1350	1140	7500	8300	345 x 10 <sup>3</sup>	1000/500	150/3
N280CHx	200-1600	735	1470	1230	8400	9270	430 x 10 <sup>3</sup>	1000/500	150/3
N283CHx	200-1600	752	1500	1320	9280	10205	521 x 10 <sup>3</sup>	1000/500	150/3
N310CHx	200-500	990	2000	1650	11000	12100	732 x 10 <sup>3</sup>	1000/500	150/3
N255CHx	3600-4500	590	1150	1040	5250	5780	167 x 10 <sup>3</sup>	300/150	300/3
N260CHx	200-3600	620	1260	1135	5700	6270	196 x 10 <sup>3</sup>	400/200	300/3
N330CHx	1600-2600	910	1790	1570	9200	10100	510 x 10 <sup>3</sup>	500/300	300/3
N350CHx	200-1800	1045	2075	1760	11500	12650	800 x 10 <sup>3</sup>	1000/500	300/3
N370CHx	200-1800	1130	2260	1890	12700	14000	975 x 10 <sup>3</sup>	1000/500	300/3
N520CHx	200-1500	1265	2515	2130	15000	16000	1.28 x 10 <sup>6</sup>	1000/500	300/3
N320CHx	3600-4500	880	1725	1535	7700	8470	359 x 10 <sup>3</sup>	300/150	300/3
N360CHx	2200-3800	1010	1975	1750	12100	13300	884 x 10 <sup>3</sup>	400/200	300/3
N390CHx	2200-3800	1130	2220	1945	14300	15700	1.23 x 10 <sup>6</sup>	400/200	300/3
N450CHx	1400-2600	1300	2560	2220	17600	19400	1.88 x 10 <sup>6</sup>	500/300	300/3
N490CHx	200-2600	1470	2915	2485	21500	23600	2.78 x 10 <sup>6</sup>	1000/500	300/3
N510CHx	200-2000	1550	3065	2630	23280	25600	3.28 x 10 <sup>6</sup>	1000/500	300/3
N540CHx	200-1800	1715	3435	2850	27200	29900	4.47 x 10 <sup>6</sup>	1000/500	300/3
N600CHx	200-1500	1800	3600	3030	29600	32500	5.28 x 10 <sup>6</sup>	1000/500	300/3
N610CHx	200-1000	2090	4210	3440	35000	38000	7.22 x 10 <sup>6</sup>	1000/500	300/3
N500CHx	3000-4200	1160	2270	2014	14500	16100	1.30 x 10 <sup>6</sup>	300/150	300/3
N570CHx	2600-3600	1315	2580	2280	16630	18290	1.67 x 10 <sup>6</sup>	300/150	300/3
N620CHx	2000-3000	1467	2880	2534	21000	23000	2.65 x 10 <sup>6</sup>	400/200	300/3
N740CHx	1400-1600	2045	4145	3340	29200	32200	5.18 x 10 <sup>6</sup>	300/150	300/3
N560CHx	3600-4500	1350	2645	2350	17500	20000	2.00 x 10 <sup>6</sup>	300/150	300/3
N630CHx	2600-3600	1663	3261	2875	23000	25000	3.13 x 10 <sup>6</sup>	300/150	300/3
N640CHx	2000-3000	1715	3370	2950	24500	30000	4.50 x 10 <sup>6</sup>	300/150	300/3
N760CHx	200-2000	2290	4575	3850	33800	40000	8.00 x 10 <sup>6</sup>	300/150	300/3
N990CHx	200-1600	2500	5000	4200	37000	45000	10.1 x 10 <sup>6</sup>	300/150	300/3
N750CHx	2600-4500	2175	4290	3700	28000	33500	5.61 x 10 <sup>6</sup>	300/150	350/4
N850CHx	3000-3600	2420	4880	4160	30000	36000	6.48 x 10 <sup>6</sup>	300/150	300/3
N880CHx	2000-3000	2550	4930	4515	32000	39000	7.61 x 10 <sup>6</sup>	300/150	300/3
N900CHx	2000-2600	3015	5925	5190	45100	49700	12.40 x 10 <sup>6</sup>	300/150	300/3
N980CHx	200-2000	3000	5900	5200	45600	55000	15.1 x 10 <sup>6</sup>	300/150	300/3
N1400CHx	200-2000	3545	7060	5930	50000	60000	18.0 x 10 <sup>6</sup>	300/150	300/3
N1600CHx	200-1200	4090	8165	6840	64000	70000	24.5 x 10 <sup>6</sup>	300/150	300/3
N1200CHx	3600-4200	2835	5590	4850	35500	39000	7.60 x 10 <sup>6</sup>	200/100	300/3
N1300CHx	2000-3200	3170	6285	5380	38600	42500	9.03 x 10 <sup>6</sup>	200/100	300/3
N1550CHx	2000-3200	3760	7433	6400	49500	54500	14.85 x 10 <sup>6</sup>	200/100	300/3

I <sub>DRM</sub> I <sub>RRM</sub> 125°C (mA)	I <sub>H</sub> 25°C (mA)	R <sub>th j-hs</sub>		V <sub>0</sub> r @ T <sub>j</sub> 125°C (Note 2)		V <sub>TM</sub> at I <sub>TM</sub> @ T <sub>j</sub> 125 °C		Wt (gm)	Mounting Force (Kgf)	Fig. No.	Type
		d.c. 180° sine (K/W)	120° Rect. (K/W)	(V)	(mΩ)	(V)	(A)				
20	600	0.135	0.190	1.57	2.29	2.66/475	70	330-550	1	<b>N086C</b>	
20	600	0.135	0.190	0.90	1.79	1.75/475	70	330-550	1	<b>N105C</b>	
20	600	0.095	0.110	1.08	1.30	2.08/770	70	330-550	1	<b>N170C</b>	
20	600	0.095	0.110	0.92	0.99	1.68/770	70	330-550	1	<b>N195C</b>	
20	400	0.095	0.110	0.85	0.535	1.26/770	70	330-550	1	<b>N275C</b>	
40	500	0.050	0.058	1.14	0.781	2.35/1550	90	530-1000	2	<b>N282C</b>	
40	500	0.050	0.058	1.09	0.587	2.00/1550	90	530-1000	2	<b>N281C</b>	
40	500	0.050	0.058	1.03	0.483	1.78/1550	90	530-1000	2	<b>N280C</b>	
40	500	0.050	0.058	0.92	0.45	1.62/1550	90	530-1000	2	<b>N283C</b>	
40	500	0.050	0.058	0.82	0.24	1.19/1550	90	530-1000	2	<b>N310C</b>	
60	1000	0.0342	0.042	1.22	1.53	2.90/1100	340	1000-2000	3	<b>N255C</b>	
60	1000	0.0342	0.042	1.21	1.36	2.71/1100	340	1000-2000	3	<b>N260C</b>	
60	1000	0.0342	0.042	1.04	0.61	2.07/1700	340	1000-2000	3	<b>N330C</b>	
60	1000	0.032	0.0397	1.08	0.40	1.75/1700	340	1000-2000	3	<b>N350C</b>	
60	1000	0.032	0.0397	1.06	0.31	1.59/1700	340	1000-2000	3	<b>N370C</b>	
60	1000	0.032	0.0397	0.90	0.265	1.35/1700	340	1000-2000	3	<b>N520C</b>	
100	1000	0.024	0.0291	1.30	0.92	2.77/1600	510	1900-2600	4	<b>N320C</b>	
100	1000	0.024	0.0291	1.17	0.687	2.43/1830	510	1900-2600	4	<b>N360C</b>	
100	1000	0.024	0.0291	1.15	0.51	2.08/1830	510	1900-2600	4	<b>N390C</b>	
100	1000	0.024	0.0291	1.03	0.38	2.00/2550	510	1900-2600	4	<b>N450C</b>	
100	1000	0.024	0.0291	1.00	0.27	1.69/2550	510	1900-2600	4	<b>N490C</b>	
100	1000	0.024	0.0291	0.92	0.252	1.56/2550	510	1900-2600	4	<b>N510C</b>	
100	1000	0.024	0.0291	0.965	0.174	1.41/2550	510	1900-2600	4	<b>N540C</b>	
100	1000	0.024	0.0291	0.855	0.171	1.29/2550	510	1900-2600	4	<b>N600C</b>	
100	1000	0.024	0.0291	0.84	0.108	1.12/2550	510	1900-2600	4	<b>N610C</b>	
100	1000	0.022	0.027	1.10	0.574	2.15/1830	510	1900-2600	4	<b>N500C</b>	
100	1000	0.022	0.027	1.00	0.437	2.11/2550	510	1900-2600	4	<b>N570C</b>	
100	1000	0.022	0.027	0.92	0.345	1.80/2550	510	1900-2600	4	<b>N620C</b>	
100	1000	0.022	0.027	0.98	0.114	1.27/2550	510	1900-2600	4	<b>N740C</b>	
150	1000	0.017	0.020	1.20	0.553	3.00/3220	1000	2700-3400	5	<b>N560C</b>	
150	1000	0.017	0.020	1.04	0.35	2.17/3220	1000	2700-3400	5	<b>N630C</b>	
150	1000	0.017	0.020	1.05	0.32	2.08/3220	1000	2700-3400	5	<b>N640C</b>	
150	1000	0.017	0.020	0.956	0.148	1.43/3220	1000	2700-3400	5	<b>N760C</b>	
150	1000	0.017	0.020	0.88	0.124	1.28/3220	1000	2700-3400	5	<b>N990C</b>	
200	1000	0.011	0.012	1.35	0.294	2.23/3000	1700	2700-4700	6	<b>N750C</b>	
200	1000	0.011	0.012	1.16	0.246	1.90/3000	1700	2700-4700	6	<b>N850C</b>	
200	1000	0.011	0.012	0.78	0.274	1.60/3000	1700	2700-4700	6	<b>N880C</b>	
200	1000	0.011	0.012	0.92	0.16	1.40/3000	1700	2700-4700	6	<b>N900C</b>	
200	1000	0.011	0.012	0.88	0.164	1.37/3000	1700	2700-4700	6	<b>N980C</b>	
200	1000	0.011	0.012	0.97	0.095	1.25/3000	1700	2700-4700	6	<b>N1400C</b>	
200	1000	0.011	0.012	0.85	0.070	1.06/3000	1700	2700-4700	6	<b>N1600C</b>	
300	1000	0.0095	0.010	1.20	0.20	2.40/6000	1300	6300-7700	7	<b>N1200C</b>	
300	1000	0.0095	0.010	1.15	0.15	2.05/6000	1300	6300-7700	7	<b>N1300C</b>	
300	1000	0.0095	0.010	0.94	0.11	1.27/3000	1300	6300-7700	7	<b>N1550C</b>	

# Phase Control Thyristors ~ Outlines



# Phase Control Thyristors ~ Notes

## Ordering

The required voltage rating may be defined by substituting the appropriate voltage code number (see table 1) into the type number in place of the "x" symbol, see type list. When phase control thyristors are supplied with critical dv/dt other than 200V/μsec an additional code (see table 2) is appended to the type number.

## Examples

N018RH12 : 1200 volt device with standard 200V/μsec critical dv/dt

N105PH12H00 : 1200 volt device with 400V/μsec critical dv/dt

## Notes

- (1)  $I_{TSM}(8.3ms) = I_{TSM}(10ms) \times 1.066$   
 $I^2t(8.3ms) = I^2t(10ms) \times 0.943$   
 $T_j = 125^\circ C$
- (2)  $V_o$  Threshold voltage } for conduction loss  
 r Slope resistance } and heatsink  
 calculations  
 (T<sub>j</sub> = 125°C)
- (3) These outlines available with the following compressed heights :  
 Outline 11 23.5 / 24.5 (0.93 / 0.96)  
 Outline 12 25.6 / 26.9 (1.00 / 1.06)  
 Ordering code NxxxDHxx  
 e.g. N980DH12
- (4) di/dt ratings refer to the sum of snubber discharge and load currents.
- (5) A blocking voltage derating factor of 0.13% per deg. Celsius is applicable for T<sub>j</sub> below 25 deg. C.

**Table 1. Voltage Code**

Voltage Code Number	V <sub>DRM</sub> and V <sub>RRM</sub>	V <sub>RSM</sub>	V <sub>DSM</sub>
02	200	300	200
04	400	500	400
06	600	700	600
08	800	900	800
10	1000	1100	1000
12	1200	1300	1200
14	1400	1500	1400
15	1500	1600	1500
16	1600	1700	1600
18	1800	1900	1800
20	2000	2100	2000
22	2200	2300	2200
24	2400	2500	2400
26	2600	2700	2600
28	2800	2900	2800
30	3000	3100	3000
32	3200	3300	3200
34	3400	3500	3400
36	3600	3700	3600
38	3800	3900	3800
40	4000	4100	4000
42	4200	4300	4200
44	4400	4500	4400
45	4500	4600	4500

**Table 2. dv/dt Code**  
 Linear to 80% V<sub>DRM</sub>

dv/dt (V/μsec)	Code
200	NO CODE
300	GOO
400	HOO
500	JOO
750	KOO
1000	LOO