

RECTIFIER DEVICE - Phase Control Thyristors - Capsule Types

Old Part Number	PDF Data Sheet Available	New Part Number	$V_{DRM} V_{RRM}$	$I_{T(AV)} @ T_{sink} 55^{\circ}C$	$I_{T(RMS)} @ T_{sink} 25^{\circ}C$	$I_{TSM(1)} 10ms \text{ } V_R \text{ } \text{\textcircled{60}\% } V_{RRM}$	$I_{TSM(2)} 10ms \text{ } V_R \text{ } \text{\textcircled{10}\% } V_{RRM}$	$I^2t_{(2)} 10ms \text{ } \text{\textcircled{10}\% } V_R$	di/dt Non Rep/Rep	$I_{GT}/V_{GT} @ 25^{\circ}C$	$I_{DRM} I_{RRM}$ at 125°C	$I_H @ 25^{\circ}C$	$R_{th} j-hs$		$V_o @ T_j 125^{\circ}C$	$r @ T_j 125^{\circ}C$	$V_{TM} \text{ at } I_{TM} @ T_j 125^{\circ}C$	Wt (Typ)	Mounting Force	Outline No.	
			(Note 5) (V)	(A)	(A)	(A)	(A)	(Note 1) (A ² s)	(Note 4) (A / ms)	(mA) (V)	(mA)	(mA)	dc 180°sine (K/W)	120° Rect. (K/W)	(Note 2) (V)	(mW)	(V) / (A)	(g)	(kN)	(Note 3)	
N086CH12-16	N	N0194WC120-160	1200-1600	194	392	1700	1950	1.90 x 10 ⁴	- /500	150/3	20	600	0.135		1.570	2.290	2.5 / 405	70	3.3 - 5.5	101A212	
N105CH12-16	N	N0255WC120-160	1200-1600	255	500	2450	1950	0.363 x 10 ⁵	- /500	150/3	20	600	0.135		0.900	1.790	1.9 / 556	70	3.3 - 5.5		
N170CH12-16	N	N0339WC120-160	1200-1600	339	674	4200	4620	1.07 x 10 ⁵	- /500	150/3	20	600	0.095		1.080	1.300	2.0 / 720	70	3.3 - 5.5		
N195CH12-16	N	N0392WC120-160	1200-1600	392	780	4650	5120	131 x 10 ³	1000/500	150/3	20	600	0.095		0.920	0.990	1.68 / 770	70	3.3 - 5.5		
N275CH02-08	N	N0491WC020-080	1200-1600	491	986	6000	6600	218 x 10 ³	-/500	150/3	20	400	0.095		0.850	0.535	1.39 / 1000	70	3.3 - 5.5		
N282SH20-24*	Y	N0606YS200-240	2000-2400	606	1201	7100	7810	305 x 10 ³	600/300	200/3	40	500	0.050		1.140	0.781	2.35 / 1550	90	5.3 - 10.0	101A335	
N281SH12-18*	Y	N0676YS120-180	1200-1800	676	1346	7500	8300	345 x 10 ³	1000/500	150/3	40	500	0.050		1.090	0.587	2.0 / 1550	90	5.3 - 10.0		
N280SH12-16*	Y	N0734YS120-160	1200-1600	734	1465	8400	9240	427 x 10 ³	1000/500	150/3	40	500	0.050		1.030	0.483	1.78 / 1550	90	5.3 - 10.0		
N283SH12-16*	Y	N0782YS120-160	1200-1600	782	1554	9420	10400	541 x 10 ³	1000/500	150/3	40	500	0.050		0.920	0.450	1.62 / 1550	90	5.3 - 10.0		
N310SH02-06*	Y	N0992YS020-060	200-600	992	1995	11000	12100	732 x 10 ³	1000/500	150/3	40	500	0.050		0.820	0.240	1.19 / 1550	90	5.3 - 10.0		
N200CH58-65	N	N0485LC580-650	5800-6500	485	970	4000	4400	96.8 x 10 ³	- / -	300/4	60	1000	0.032	0.0388	1.350	2.100	2.40 / 500	340	10.0 - 20.0	101A216	
N255CH40-45	N	N0616LC400-450	4000-4500	616	1150	5250	5780	167 x 10 ³	-/150	300/3	60	1000	0.032	0.0388	1.220	1.530	2.9 / 1100	340	10.0 - 20.0		
N257CH38-42	N	N0634LC380-420	3800-4200	634	1180	7000	7700	0.296 x 10 ⁶	- / -	300/3	100	1000	0.032	0.0388	1.100	1.500	2.80 / 1100	340	10.0 - 20.0		
N260CH30-36	N	N0646LC300-360	3000-3600	646	1210	5700	6270	196 x 10 ³	- / 200	300/3	60	1000	0.032	0.0388	1.210	1.360	2.71 / 1100	340	10.0 - 20.0		
N330SH20-26*	Y	N0910LS200-260	2000-2600	910	1788	9200	10100	510 x 10 ³	600/300	300/3	60	1000	0.032	0.0388	1.040	0.606	2.07 / 1700	340	10.0 - 20.0		
N350SH12-18*	Y	N1042LS120-180	1200-1800	1042	2072	11500	12650	800 x 10 ³	1000/500	300/3	60	1000	0.032	0.0388	1.080	0.395	1.75 / 1700	340	10.0 - 20.0	101A336	
N370SH12-18*	Y	N1114LS120-180	1200-1800	1114	2214	12700	14000	980 x 10 ³	1000/500	300/3	60	1000	0.032	0.0388	1.000	0.349	1.59 / 1700	340	10.0 - 20.0		
N520SH12-15*	Y	N1265LS120-150	1200-1800	1265	2517	15000	16000	1.280 x 10 ⁶	1000/500	300/3	60	1000	0.032	0.0388	0.900	0.265	1.35 / 1700	340	10.0 - 20.0		
N320CH40-45	N	N0882NC400-450	4000-4500	882	1725	7700	8470	359 x 10 ³	300/150	300/3	100	1000	0.024	0.029	1.300	0.920	2.77 / 1600	510	19.0 - 26.0		101A223
N360CH30-38	N	N1010NC300-380	3000-3800	1010	1975	12100	13300	884 x 10 ³	400/200	300/3	100	1000	0.024	0.029	1.170	0.687	2.43 / 1830	510	19.0 - 26.0		
N390CH30-36	N	N1132NC300-360	3000-3600	1132	2220	14300	15700	1.23 x 10 ⁶	400/200	300/3	100	1000	0.024	0.029	1.150	0.510	2.08 / 1830	510	19.0 - 26.0		
N450SH20-26*	Y	N1297NS200-260	2000-2600	1297	2557	17600	19400	1.88 x 10 ⁶	600/300	300/3	100	1000	0.024	0.029	1.030	0.380	2.0 / 2550	510	19.0 - 26.0		
N490SH20-26*	Y	N1467NS200-260	2000-2600	1467	2912	21500	23600	2.78 x 10 ⁶	1000/500	300/3	100	1000	0.024	0.029	1.000	0.272	1.69 / 2550	510	19.0 - 26.0		
N510SH16-20*	Y	N1547NS160-200	1600-2000	1547	3064	23300	25600	3.28 x 10 ⁶	1000/500	300/3	100	1000	0.024	0.029	0.920	0.252	1.56 / 2550	510	19.0 - 26.0	101A337	
N540SH12-18*	Y	N1718NS120-180	1200-2000	1718	3450	27200	29900	4.47 x 10 ⁶	1000/500	300/3	100	1000	0.024	0.029	0.979	0.169	1.41 / 2550	510	19.0 - 26.0		
N600SH12-16*	Y	N1802NS120-160	1200-1500	1802	3592	29600	32500	5.28 x 10 ⁶	1000/500	300/3	100	1000	0.024	0.029	0.855	0.171	1.29 / 2550	510	19.0 - 26.0		
N610SH06-10*	Y	N2086NS060-100	600-1000	2086	4207	35000	38000	7.22 x 10 ⁶	1000/500	300/3	100	1000	0.024	0.029	0.840	0.108	1.12 / 2550	510	19.0 - 26.0		
N410CH58-65	N	N0633NC580-650	5800-6500	633	1270	6650	7300	0.266 x 10 ⁶	100/50	300/4	150	1000	0.024	0.029	1.380	1.640	3.02 / 1000	510	19.0 - 26.0		101A223
N500CH38-42	N	N1159NC380-420	3800-4200	1159	2270	14500	16100	1.30 x 10 ⁶	300/150	300/3	100	1000	0.022	0.027	1.100	0.574	2.15 / 1830	510	19.0 - 26.0		
N570CH30-36	N	N1314NC300-360	2000-3600	1314	2580	16630	18290	1.67 x 10 ⁶	300/150	300/3	100	1000	0.022	0.027	1.000	0.437	2.11 / 2550	510	19.0 - 26.0		
N620SH24-30*	Y	N1479NS240-300	2400-3000	1479	2901	21000	23000	2.65 x 10 ⁶	400/200	300/3	100	1000	0.022	0.027	0.920	0.342	1.80 / 2550	510	19.0 - 26.0		
N680SH20-26*	Y	N1588NS200-260	2000-2600	1588	3138	22500	24750	3.06 x 10 ⁶	300/150	300/3	100	1000	0.022	0.027	0.951	0.268	1.65 / 2550	510	19.0 - 26.0		
N740SH12-16*	Y	N2046NS120-160	1200-1600	2046	4141	29200	32200	5.18 x 10 ⁶	300/150	300/3	100	1000	0.022	0.027	0.980	0.114	1.27 / 2550	510	19.0 - 26.0		
N560CH40-45	N	N1351VC400-450	4000-4500	1351	2645	17500	20000	2.00 x 10 ⁶	300/150	300/3	150	1000	0.017	0.020	1.200	0.553	3.00 / 3220	1000	27.0 - 34.0	101A232	
N630CH30-36	N	N1661VC300-360	3000-3600	1661	3261	23000	25000	3.13 x 10 ⁶	300/150	300/3	150	1000	0.017	0.020	1.040	0.350	2.17 / 3220	1000	27.0 / 34.0		
N640CH24-30	N	N1712VC240-300	2400-300	1712	3370	24500	30000	4.50 x 10 ⁶	300/150	300/3	150	1000	0.017	0.020	1.050	0.320	2.08 / 3220	1000	27.0 - 34.0		
N760CH18-22	N	N2293VC180-220	1800-2200	2293	4575	33800	40000	8.00 x 10 ⁶	300/150	300/3	150	1000	0.017	0.020	0.956	0.148	1.43 / 3220	1000	27.0 - 34.0		
N990CH12-16	N	N2500VC120-160	1200-1600	2500	5000	3700	45000	10.1 x 10 ⁶	300/150	300/3	150	1000	0.017	0.020	0.880	0.124	1.28 / 3220	1000	27.0 - 34.0		
N635CH58-65	N	N1555ZC580-650	5800-6500	1555	3110	20000	22000	2.42 x 10 ⁶	100/50	350/4	200	1000	0.011	0.012	1.200	0.600	1.80 / 1000	1700	27.0 - 47.0	101A281	
N750CH40-45	N	N2172ZC400-450	4000-4500	2172	4290	28000	33500	5.61 x 10 ⁶	300/150	350/4	200	1000	0.011	0.012	1.350	0.294	2.23 / 3000	1700	27.0 - 47.0		
N850CH30-36	N	N2418ZC300-360	3000-3600	2418	4880	30000	36000	6.48 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	1.160	0.246	1.90 / 3000	1700	27.0 - 47.0		
N880CH24-30	N	N2543ZC240-300	2400-3000	2543	4930	32000	39000	7.61 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	0.780	0.274	1.60 / 3000	1700	27.0 - 47.0		
N900CH20-26	N	N3012ZC200-260	2000-2600	3012	5925	45100	49700	12.40 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	0.920	0.160	1.40 / 3000	1700	27.0 - 47.0		
N980CH16-22	N	N3022ZC160-220	1600-2200	3022	5900	45600	55000	15.1 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	0.880	0.164	1.37 / 3000	1700	27.0 - 47.0		
N1400CH14-20	N	N3533ZC140-200	1400-2000	3533	7060	50000	60000	18.0 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	0.970	0.095	1.25 / 3000	1700	27.0 - 47.0		
N1600CH08-12	N	N4085ZC080-120	800-1200	4085	8165	64000	70000	24.5 x 10 ⁶	300/150	300/3	200	1000	0.011	0.012	0.850	0.070	1.06 / 3000	1700	27.0 - 47.0		

N1063DH58-65	Y	N1847TD580-650	5300-6500	2010	3930	25200	28000	2.6×10^6	300/150	300/2	200	1000	0.011		1.200	0.385	2.00 / 2000	1230	63.0 - 77.0	101A325
N1263CH45-52	Y	N2503TC450-520	4500-5200	2500	4880	37800	42000	5.1×10^6	300/150	300/4	300	1000	0.011		1.00	0.250	2.0 / 4000	1230	63.0 - 77.0	
N1263DH45-52	N	N2503TC450-520	4500-5200	2500	4880	37800	42000	5.1×10^6	300/150	300/4	300	1000	0.011		1.00	0.250	2.0 / 4000	1230	63.0 - 77.0	
N1463CH36-42	Y	N2849TC360-420	3600-4200	2850	5590	46800	52000	8.2×10^6	300/150	300/3	250	1000	0.011		0.180	0.970	1.87 / 5000	1230	63.0 - 77.0	
N1463DH36-42	N	N2849TC360-420	3600-4200	2850	5590	46800	52000	8.2×10^6	300/150	300/3	250	1000	0.011		0.180	0.970	1.87 / 5000	1230	63.0 - 77.0	
N1663CH30-35	Y	N3184TC300-350	3600-4200	3180	5460	49500	55000	9.8×10^6	300/150	300/3	250	1000	0.011		0.95	0.14	1.74 / 6000	1230	63.0 - 77.0	
N1663DH30-35	N	N3184TC300-350	3600-4200	3180	5460	49500	55000	9.8×10^6	300/150	300/3	250	1000	0.011		0.95	0.14	1.74 / 6000	1230	63.0 - 77.0	
N1863CH20-28	Y	N3573TC200-280	2000-2800	3560	6040	54000	64000	10.1×10^6	300/150	300/3	250	1000	0.011		0.9	0.1	1.5 / 6000	1230	63.0 - 77.0	
N1863DH20-28	N	N3573TC200-280	2000-2800	3560	6040	54000	64000	10.1×10^6	300/150	300/3	250	1000	0.011		0.9	0.1	1.5 / 6000	1230	63.0 - 77.0	

N1083CH58-65	Y	N2840FC580-650	5800-6500	2310	4130	40000	45000	6.0×10^6	300/150	300/3	300	1000	0.009		0.29	1.23	2.10 / 3000	2800	81.0 - 98.0	101A322
N1283CH45-52	Y	N3764FC450-520	4500-5200	3764	6620	49500	55000	15.13×10^6	300/150	300/3	300	1000	0.0065		1.0	0.2	2.0 / 5000	2800	81.0 - 98.0	
N1483CH36-42	Y	N4156FC360-420	3600-4200	3400	5950	54000	60000	10.1×10^6	300/150	300/3	250	1000	0.009		0.85	0.17	1.87 / 6000	2800	81.0 - 98.0	
N1683CH30-35	Y	N4803FC300-350	3000-3500	3890	6650	60000	67000	10.2×10^6	300/150	300/3	250	1000	0.009		0.94	0.11	1.60 / 6000	2800	81.0 - 98.0	
N1883CH20-28	Y	N5107FC200-280	2000-2800	4145	7115	67500	75000	10.8×10^6	300/150	300/3	300	1000	0.009		0.8	0.1	1.40 / 6000	2800	81.0 - 98.0	
N1983CH18-22	Y	N5946FC180-220	1800-2200	5946	10155	72000	80000	32.0×10^6	300/150	300/3	200	1000	0.0065		0.855	0.065	1.25 / 6000	2800	81.0 - 98.0	

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Note 1 $I_{TSM} (8.3ms) = I^2 t (10ms) \times 0.943$ at initial temperature $T_J 125^\circ C$

Note 2 V_o Threshold Voltage
r Slope resistance) for conduction loss and heatsink calculations ($T_J = 125^\circ C$)

Note 3 Capsule outlines available with compressed heights:

Outline 101A281

25.6 / 26.9 = ordering code NxxxDHxx, e.g. N980DH12

Note 4 di/dt ratings refer to the sum of snubber discharge an

Note 5 A blocking derating factor of 0.13 per degree Centigrade for T_J below $25^\circ C$