

# Medium Voltage Thyristors - Capsule Types

# WESTCODE

Medium voltage applications place additional demands on phase controlled thyristors. To meet these demands we have developed a comprehensive range of thyristors optimised for medium voltage applications. As voltages increase, so do switching losses and turn-off time to a point where they become significant in line frequency applications. Our patented distributed gate architecture ensures excellent switching performance over a wide range of voltage, current and di/dt. Device lifetime is also engineered to achieve an optimum balance between conduction losses, commutation losses and turn-off time to give maximum power handling from line frequency to 400 Hz. This also gives significant benefits when series or parallel connection of devices is required. Medium voltage thyristors are available from 3.2 kV up to 6.5 kV with silicon diameters from 38 mm to 100 mm making them particularly suitable for high power converters such as medium voltage DC drives, medium voltage soft starts and utility applications such as HVDC, static VAR compensators, excitation and transfer switches.

We recognise the importance of reliability in these large, capital intensive applications and as a result we subject these parts to extended levels of both routine and type testing to ensure that your investment gives years of trouble free service

Type Part No. ➤ New	V <sub>DRM</sub> V <sub>RRM</sub> V	I <sub>TAV</sub> T <sub>K</sub> = 55°C A	I <sub>TSM</sub> 10 ms ½ sine V <sub>R</sub> ≤ 60% V <sub>RRM</sub> A	I <sup>2</sup> t A <sup>2</sup> s	t <sub>q</sub> @ 200 V/μs μs	Typ. Reverse Recovery Charge T <sub>JM</sub> , 50% Chord Q <sub>rr</sub> @ I <sub>TM</sub> @ -di/dt μC A A/μs			V <sub>T0</sub> @ T <sub>JM</sub> V	r <sub>T</sub> mΩ	T <sub>JM</sub> °C	R <sub>thJK</sub> 180° Sine K/W		120° Rect. K/W	Fig. No.
K0349LC600	6000	349	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0470	0.0494	W10	
K0349LC650	6500	349	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0470	0.0494	W10	
K0349LG600	6000	349	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0470	0.0494	W56	
K0349LG650	6500	349	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0470	0.0494	W56	
K0443LC600	6000	443	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0320	0.0388	W10	
K0443LC650	6500	443	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0320	0.0388	W10	
K0443LG600	6000	443	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0320	0.0388	W56	
K0443LG650	6500	443	4800	115 x 10 <sup>3</sup>	900-1200	3100	1000	10	1.568	2.428	115	0.0320	0.0388	W56	
➤ K0566LC440	4400	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W10	
➤ K0566LC480	4800	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W10	
➤ K0566LC520	5200	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W10	
➤ K0566LG440	4400	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W56	
➤ K0566LG480	4800	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W56	
➤ K0566LG520	5200	566	6000	180 x 10 <sup>3</sup>	700-1000	2200	500	10	1.360	1.790	125	0.0320	0.0388	W56	
K0682LC360	3600	682	6350	202 x 10 <sup>3</sup>	650-800	2000	1000	10	1.211	1.182	125	0.0320	0.0388	W10	
K0682LC420	4200	682	6350	202 x 10 <sup>3</sup>	650-800	2000	1000	10	1.211	1.182	125	0.0320	0.0388	W10	
K0682LG360	3600	682	6350	202 x 10 <sup>3</sup>	650-800	2000	1000	10	1.211	1.182	125	0.0320	0.0388	W56	
K0682LG420	4200	682	6350	202 x 10 <sup>3</sup>	650-800	2000	1000	10	1.211	1.182	125	0.0320	0.0388	W56	
K0769NC600	6000	769	8600	370 x 10 <sup>3</sup>	900-1200	1700	1000	10	1.566	1.172	115	0.0240	0.0271	W11	
K0769NC650	6500	769	8600	370 x 10 <sup>3</sup>	900-1200	1700	1000	10	1.566	1.172	115	0.0240	0.0271	W11	
K0769NG600	6000	769	8600	370 x 10 <sup>3</sup>	900-1200	1700	1000	10	1.566	1.172	115	0.0240	0.0271	W57	
K0769NG650	6500	769	8600	370 x 10 <sup>3</sup>	900-1200	1700	1000	10	1.566	1.172	115	0.0240	0.0271	W57	
➤ K0885NC450	4500	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W11	
➤ K0885NC480	4800	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W11	
➤ K0885NC520	5200	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W11	
➤ K0885NG450	4500	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W57	
➤ K0885NG480	4800	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W57	
➤ K0885NG520	5200	885	10000	500 x 10 <sup>3</sup>	700-1100	5300	1000	10	1.270	0.930	125	0.0240	0.0271	W57	
K0890NC360	3600	890	10900	594 x 10 <sup>3</sup>	350-550	4000	1000	10	1.516	0.800	125	0.0240	0.0271	W11	
K0890NC420	4200	890	10900	594 x 10 <sup>3</sup>	350-550	4000	1000	10	1.516	0.800	125	0.0240	0.0271	W11	
K1120NC360	3600	1120	13500	911 x 10 <sup>3</sup>	650-1000	5000	1000	10	1.092	0.546	125	0.0240	0.0271	W11	
K1120NC420	4200	1120	13500	911 x 10 <sup>3</sup>	650-1000	5000	1000	10	1.092	0.546	125	0.0240	0.0271	W11	
K1120NG360	3600	1120	13500	911 x 10 <sup>3</sup>	650-1000	5000	1000	10	1.092	0.546	125	0.0240	0.0271	W57	
K1120NG420	4200	1120	13500	911 x 10 <sup>3</sup>	650-1000	5000	1000	10	1.092	0.546	125	0.0240	0.0271	W57	
K1121NC320	3200	1121	15000	1.13 x 10 <sup>6</sup>	400-500	2000	1000	10	1.098	0.542	125	0.0240	0.0273	W11	
K1121NC360	3600	1121	15000	1.13 x 10 <sup>6</sup>	400-500	2000	1000	10	1.098	0.542	125	0.0240	0.0273	W11	
K1197NC300	3000	1197	10650	567 x 10 <sup>3</sup>	200-300	2700	1000	10	1.335	0.372	125	0.0240	0.0273	W11	
K1197NC320	3200	1197	10650	567 x 10 <sup>3</sup>	200-300	2700	1000	10	1.335	0.372	125	0.0240	0.0273	W11	
K1351VC600	6000	1351	14300	1.02 x 10 <sup>6</sup>	800-1500	7200	2000	10	1.410	0.600	115	0.0130	0.0145	W12	
K1351VC650	6500	1351	14300	1.02 x 10 <sup>6</sup>	800-1500	7200	2000	10	1.410	0.600	115	0.0130	0.0145	W12	
K1351VF600	6000	1351	14300	1.02 x 10 <sup>6</sup>	800-1500	7200	2000	10	1.410	0.600	115	0.0130	0.0145	W62	
K1351VF650	6500	1351	14300	1.02 x 10 <sup>6</sup>	800-1500	7200	2000	10	1.410	0.600	115	0.0130	0.0145	W62	
K1947ZC400	4000	1947	25000	3.13 x 10 <sup>6</sup>	600-700	8800	1000	10	1.221	0.425	125	0.0110	0.0119	W13	
K1947ZC450	4500	1947	25000	3.13 x 10 <sup>6</sup>	600-700	8800	1000	10	1.221	0.425	125	0.0110	0.0119	W13	
K1947ZD400	4000	1947	25000	3.13 x 10 <sup>6</sup>	600-700	8800	1000	10	1.221	0.425	125	0.0110	0.0119	W46	
K1947ZD450	4500	1947	25000	3.13 x 10 <sup>6</sup>	600-700	8800	1000	10	1.221	0.425	125	0.0110	0.0119	W46	
K2065VC360	3600	2065	28000	3.92 x 10 <sup>6</sup>	400-700	6700	2000	10	1.121	0.291	125	0.0130	0.0145	W12	
K2065VC420	4200	2065	28000	3.92 x 10 <sup>6</sup>	400-700	6700	2000	10	1.121	0.291	125	0.0130	0.0145	W12	
K2065VF360	3600	2065	28000	3.92 x 10 <sup>6</sup>	400-700	6700	2000	10	1.121	0.291	125	0.0130	0.0145	W62	
K2065VF420	4200	2065	28000	3.92 x 10 <sup>6</sup>	400-700	6700	2000	10	1.121	0.291	125	0.0130	0.0145	W62	