

Medium Voltage Thyristors

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 400Hz. This also gives significant benefits when series or parallel connection of devices is required. Medium voltage thyristors are available from 3.2kV up to 6.5kV with silicon diameters from 38mm to 100mm 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		V_{DRM} V_{RRM}	I_{TAV} $T_K=55^\circ C$	I_{TSM}	I^2t 10ms 1/2 sine $V_R \leq 60\% V_{RRM}$	t_q @ 200V/ μs	Typ. Reverse Recovery Charge $T_{JM}, 50\% \text{ Chord}$			V_{T0}	r_T	T_{JM}	R_{thJK}		Fig. No.
Part No.	Old Part No.	V	A	A	A ² s	μs	Q_{ra} μC	@ I_{TM} A	@ -di/dt A/ μs	@ T_{JM} V	mW	$^\circ C$	180° Sine K/W	120° Rect. K/W	
K0349LC600	P201CH60	6000	349	4800	115×10^3	900-1200	900	1000	60	1.568	2.428	115	0.047	0.049	W10
K0349LC650	P201CH65	6500	349	4800	115×10^3	900-1200	900	1000	60	1.568	2.428	115	0.047	0.049	W10
K0769NC600	P410CH60	6000	769	8600	370×10^3	900-1200	2050	1000	10	1.566	1.172	115	0.024	0.029	W11
K0769NC650	P410CH65	6500	769	8600	370×10^3	900-1200	2050	1000	10	1.566	1.172	115	0.024	0.029	W11
K0890NC360	R295CH36	3600	890	10900	594×10^3	350-550	1500	1000	10	1.516	0.800	125	0.024	0.029	W11
K0890NC420	R295CH42	4200	890	10900	594×10^3	350-550	1500	1000	10	1.516	0.800	125	0.024	0.029	W11
K1121NC320	P440CH32	3200	1121	15000	1.13×10^6	400-500	1000	1000	10	1.098	0.542	125	0.024	0.029	W11
K1121NC360	P440CH36	3600	1121	15000	1.13×10^6	400-500	1000	1000	10	1.098	0.542	125	0.024	0.029	W11
K1197NC300	P480CH30	3000	1197	10646	567×10^3	200-300	1400	1000	10	1.210	0.430	125	0.024	0.029	W11
K1197NC320	P480CH32	3200	1197	10646	567×10^3	200-300	1400	1000	10	1.210	0.430	125	0.024	0.029	W11
New> K1351VC600	N/A	6000	1351	14300	1.02×10^6	800-1500	4500	2000	10	1.410	0.600	115	0.013	0.014	W12
New> K1351VC650	N/A	6500	1351	14300	1.02×10^6	800-1500	4500	2000	10	1.410	0.600	115	0.013	0.014	W12
New> K1351VF600	N/A	6000	1351	14300	1.02×10^6	800-1500	4500	2000	10	1.410	0.600	115	0.013	0.014	W50
New> K1351VF650	N/A	6500	1351	14300	1.02×10^6	800-1500	4500	2000	10	1.410	0.600	115	0.013	0.014	W50
K1947ZC400	P855CH40	4000	1947	25000	3.13×10^6	600-700	3500	1000	10	1.221	0.425	125	0.011	0.012	W13
K1947ZC450	P855CH45	4500	1947	25000	3.13×10^6	600-700	3500	1000	10	1.221	0.425	125	0.011	0.012	W13
K1947ZD400	P855CH40	4000	1947	25000	3.13×10^6	600-700	3500	1000	10	1.221	0.425	125	0.011	0.012	W46
K1947ZD450	P855CH45	4500	1947	25000	3.13×10^6	600-700	3500	1000	10	1.221	0.425	125	0.011	0.012	W46
K2095ZC360	P880CH36	3600	2095	18200	1.66×10^6	400-500	2400	2000	10	1.502	0.296	125	0.011	0.012	W13
K2095ZC420	P880CH42	4200	2095	18200	1.66×10^6	400-500	2400	2000	10	1.502	0.296	125	0.011	0.012	W13
K2095ZD360	P880DH36	3600	2095	18200	1.66×10^6	400-500	2400	2000	10	1.502	0.296	125	0.011	0.012	W46
K2095ZD420	P880DH42	4200	2095	18200	1.66×10^6	400-500	2400	2000	10	1.502	0.296	125	0.011	0.012	W46



Type		V _{DRM} V _{RRM}	I _{TAV} T _K =55°C	I _{TSM} 10ms ½ sine	I ² t V _R ≤60% V _{RRM}	t _q @ 200V/μs	Typ. Reverse Recovery Charge T _{JM} , 50% Chord			V _{TO}	r _T	T _{JM}	R _{thJK}		Fig. No.
Part No.	Old Part No.	V	A	A	A ² s	μs	Q _{rr} μC	@I _{TM} A	@-di/dt A/μs	@T _{JM} V	mW	°C	180° Sine K/W	120° Rect. K/W	
K2359TC600	P1063CH60	6000	2359	27000	3.65×106	1100-1500	6800	2000	10	1.391	0.360	115	0.0085	0.0092	W14
K2359TC650	P1063CH65	6500	2359	27000	3.65×106	1100-1500	6800	2000	10	1.391	0.360	115	0.0085	0.0092	W14
K2359TD600	N/A	6000	2359	27000	3.65×106	1100-1500	6800	2000	10	1.391	0.360	115	0.0085	0.0092	W19
K2359TD650	N/A	6500	2359	27000	3.65×106	1100-1500	6800	2000	10	1.391	0.360	115	0.0085	0.0092	W19
K2623TC450	R1263CH45	4500	2623	27000	3.65×106	500-1000	2600	2000	60	1.421	0.295	125	0.008	0.0089	W14
K2623TC520	R1263CH52	5200	2623	27000	3.65×106	500-1000	2600	2000	60	1.421	0.295	125	0.008	0.0089	W14
K2623TD450	N/A	4500	2623	27000	3.65×106	500-1000	2600	2000	60	1.421	0.295	125	0.008	0.0089	W19
K2623TD520	N/A	5200	2623	27000	3.65×106	500-1000	2600	2000	60	1.421	0.295	125	0.008	0.0089	W19
K2960TC450	N/A	4500	2960	32500	5.28×106	800-1600	11000	4000	10	1.229	0.212	125	0.0085	0.0092	W14
K2960TC520	N/A	5200	2960	32500	5.28×106	800-1600	11000	4000	10	1.229	0.212	125	0.0085	0.0092	W14
K2960TD450	N/A	4500	2960	32500	5.28×106	800-1600	11000	4000	10	1.229	0.212	125	0.0085	0.0092	W19
K2960TD520	N/A	5200	2960	32500	5.28×106	800-1600	11000	4000	10	1.229	0.212	125	0.0085	0.0092	W19
K2973FC600	N/A	6000	2973	35400	6.27×106	1100-1500	6200	4000	10	1.581	0.207	115	0.0065	0.0069	W15
K2973FC650	N/A	6500	2973	35400	6.27×106	1100-1500	6200	4000	10	1.581	0.207	115	0.0065	0.0069	W15
K2973FD600	N/A	6000	2973	35400	6.27×106	1100-1500	6200	4000	10	1.581	0.207	115	TBC	TBC	W48
K2973FD650	N/A	6500	2973	35400	6.27×106	1100-1500	6200	4000	10	1.581	0.207	115	TBC	TBC	W48
K3362TC360	N/A	3600	3362	39500	7.80×106	1000-2000	7400	4000	10	1.052	0.168	125	0.0085	0.0092	W14
K3362TC420	N/A	4200	3362	39500	7.80×106	1000-2000	7400	4000	10	1.052	0.168	125	0.0085	0.0092	W14
K3362TD360	N/A	3600	3362	39500	7.80×106	1000-2000	7400	4000	10	1.052	0.168	125	0.0085	0.0092	W19
K3362TD420	N/A	4200	3362	39500	7.80×106	1000-2000	7400	4000	10	1.052	0.168	125	0.0085	0.0092	W19
K3503FC450	N/A	4500	3503	43200	9.33×106	900-1800	5500	4000	10	1.375	0.196	125	0.0065	0.007	W15
K3503FC520	N/A	5200	3503	43200	9.33×106	900-1800	5500	4000	10	1.375	0.196	125	0.0065	0.007	W15
K3503FD450	N/A	4500	3503	43200	9.33×106	900-1800	5500	4000	10	1.375	0.196	125	TBC	TBC	W48
K3503FD520	N/A	5200	3503	43200	9.33×106	900-1800	5500	4000	10	1.375	0.196	125	TBC	TBC	W48
Dev> KX101FC360	N/A	3600	Product under development									125	0.0065	0.007	W15
Dev> KX101FC420	N/A	4200	Product under development									125	0.0065	0.007	W15
Dev> KX101FD360	N/A	3600	Product under development									125	TBC	TBC	W48
Dev> KX101FD420	N/A	4200	Product under development									125	TBC	TBC	W48



Figure W14 - 75mm - 1300g

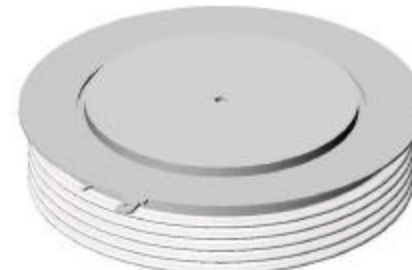


Figure W19 - 75mm - 1700g



Figure W15 - 99mm - 2800g



Figure W48 - 99mm - 1200g