

FAST SWITCHING DEVICE - Fast Recovery Diodes - Capsule Types

Old Part Number	Data Sheet Available	New Part Number	V _{RRM} Range (Note 3) (V)	I _{F(AV)} @ T _{sink} 55°C (A)	I _{F(RMS) Max} @ T _{sink} 25°C (A)	I _F @ T _{sink} 25°C (A)	Typical Reverse Recovered Charge and Typical Reverse Recovery @ T _J Max (50% Chord)				I _{FSM(1)} 10ms V _R £60% V _{RRM} (Note 2) (A)	I _{FSM(2)} 10ms V _R £10V (Note 2) (A)	I ² t ₍₂₎ 10ms (Note 2) (A ² S)	I _{RRM} @ T _J Max (mA)	V _o r @ T _J Max. (Note 1)	V _{FM} at I _{FM} @ T _J Max. (V) (A)		T _J Max (°C)	Rth J-hs d.c. 180° sine (K/W) 120° Rect. (K/W)		Wt (typ) (g)	Mounting Force (kN)	Outline No. (Note 4)	
				Q _{ra} (nC)	t _{rr} (ms)	I _{FM} (A)	di/dt (A/ms)	Q _{ra} (nC)	t _{rr} (ms)	I _{FM} (A)	di/dt (A/ms)	Q _{ra} (nC)	t _{rr} (ms)	I _{FM} (A)	di/dt (A/ms)	Q _{ra} (nC)	t _{rr} (ms)	I _{FM} (A)	di/dt (A/ms)	Q _{ra} (nC)	t _{rr} (ms)	I _{FM} (A)		di/dt (A/ms)
SM18CXC100	N	M0358WC180	1200-1800	358	673	554	68	1.0	1000	100	2450	2700	30 x 10 ³	20	1.46	0.80	1.97	635	125	0.090	0.095	70	3.3 - 5.5	100A241
SM28CXC115	N	M0233WC280	1600-2800	233	458	400	180	3.0	1000	100	1860	2050	20.9 x 10 ³	50	1.49	3.22	3.53	635	125	0.090	0.095	70	3.3 - 5.5	
SM25CXC134	N	M0347WCxx0	1600-2500	347	690	580	173	2.80	1000	150	4250	4670	109 x 10 ³	20	1.21	1.20	1.97	635	125	0.090	0.095	70	3.3 - 5.5	
SM28CXC144	N	M0367WCxx0	1600-2800	367	742	624	255	2.80	550	150	4500	4950	122 x 10 ³	20	1.28	0.92	1.86	635	125	0.090	0.095	70	3.3 - 5.5	
SM14CXC170	N	M0437WCxx0	800-1400	437	880	730	56	2.30	550	40	4500	4950	122 x 10 ³	20	1.02	0.70	1.46	635	125	0.090	0.095	70	3.3 - 5.5	
SM20CXC174	N	M0433WCxx0	1200-2000	433	870	725	120	2.80	550	40	4500	4950	122 x 10 ³	20	1.00	0.74	0.74	635	125	0.090	0.095	70	3.3 - 5.5	
SM20CXC176	N	M0451YCxx0	1200-2000	451	870	725	120	2.80	550	40	4500	4950	122 x 10 ³	20	1.00	0.74	1.47	635	125	0.085	0.090	80	3.65 - 10.0	100A291
SM16CXC190	N	M0759YCxx0	200-1600	759	1540	1245	41	1.50	550	40	9500	10450	546x 10 ³	50	1.13	0.38	1.70	1500	125	0.050	0.065	90	5.3 - 10.0	
SM45HXC084	N	M0225YFxx0	3000-4500	225	415	360	266	2.50	1000	150	2000	2200	24x 10 ³	50	1.90	4.16	4.54	635	150	0.100	0.106	141	3.5 - 5.5	100A317
SM35HXC103	N	M0310YFxx0	3000-3500	310	580	500	188	2.30	1000	100	4590	5050	128x 10 ³	50	1.49	2.06	2.06	150	150	0.100	0.106	141	3.5 - 5.5	
SM45HXC164	N	M0371YFxx0	3500-4500	371	678	597	480	2.60	1000	150	4900	5400	146x 10 ³	50	1.05	1.65	1.65	150	150	0.100	0.106	141	3.5 - 5.5	
SM25HXC166	N	M0439YFxx0	2500-3000	439	450	380	75	1.5	1000	100	3100	3424	59x 10 ³	50	2.01	3.33	3.33	150	150	0.100	0.106	141	3.5 - 5.5	
SM16CXC220	N	M0859LCxx0	1200-1600	859	1745	1404	105	2.30	800	50	10000	11000	605x 10 ³	50	1.17	0.32	1.55	1200	125	0.044	0.055	340	10.0 - 20.0	100A243
SM21CXC224	N	M0872LCxx0	1400-2100	872	1760	1440	225	1.70	800	50	10000	11000	605x 10 ³	50	1.09	0.34	1.50	1200	125	0.044	0.055	340	10.0 - 20.0	
SM60CXC274	N	M0710LCxx0	5600-6000	710	1400	1200	1000	3.30	1000	200	8400	9240	0.427x 10 ⁶	100	1.45	0.875	2.500	1200	125	0.033	0.040	340	10.0 - 20.0	
SM12CXC314	N	M1080LCxx0	1000-1200	1080	2175	1790	120	1.60	1000	200	13500	14900	1.10X10 ⁶	100	1.15	0.30	1.510	1200	125	0.033	0.040	340	10.0 - 20.0	
SM45CXC344	N	M0588LCxx0	4000-4500	588	1104	948	315	3.50	1000	60	3955	4350	94.6x 10 ³	100	2.32	1.77	4.80	1400	150	0.033	0.040	340	10.0 - 20.0	
SM45CXC364	N	M0659LCxx0	4000-4500	659	1315	1110	263	3.00	1000	50	7620	8470	359x 10 ³	100	1.71	0.925	3.000	1400	125	0.033	0.040	340	10.0 - 20.0	
SM45CXC374	N	M0736LCxx0	4000-4500	736	1465	1240	953	3.80	1000	200	9000	10000	500x 10 ³	100	1.50	0.76	2.56	1400	125	0.033	0.400	340	10.0 - 20.0	
SM36CXC474	N	M0863LCxx0	2600-3600	863	1730	1437	548	2.80	1000	200	10000	11000	605x 10 ³	100	1.39	0.50	2.10	1400	125	0.033	0.040	340	10.0 - 20.0	
SM25CXC524	N	M0955LCxx0	2000-2500	955	1944	1552	338	2.00	1000	200	11700	12870	830x 10 ³	50	1.44	0.33	1.90	1400	125	0.033	0.040	340	10.0 - 20.0	
SM20CXC724	N	M1022LCxx0	1200-2000	1022	1900	1680	248	1.90	1000	200	14000	15400	1.19x 10 ⁶	100	1.24	0.33	1.72	1450	125	0.033	0.040	340	10.0 - 20.0	
SM25CXC804	N	M0760LCxx0	2000-2500	760	1540	1250	140	2.4	800	50	9000	10000	500x10 ³	50	1.70	0.58	2.54	1450	125	0.033	0.040	340	10.0 - 20.0	
SM25CXC334	N	M1502NCxx0	2000-2500	1502	2807	2450	420	2.30	1000	200	17000	18700	1.75X10 ⁶	60	1.24	0.44	2.21	2200	150	0.022	0.028	510	19.0 - 26.0	
SM06CXC504	N	M1825NCxx0	200-600	1825	1105	2185	225	1.50	1000	200	26000	28600	1.75X10 ⁶	50	0.93	0.18	1.47	3000	125	0.022	0.028	510	19.0 - 26.0	
SM60CXC574	N	M1102NCxx0	5000-6000	1102	2185	1885	1500	4.50	1000	200	13000	14300	1.02X10 ⁶	60	1.36	0.56	2.20	1500	125	0.022	0.280	510	19.0 - 26.0	
SM45CXC604	N	M1010NCxx0	4000-4500	1010	1880	1665	724	3.00	1000	200	9600	10600	0.56X10 ⁶	150	1.70	1.03	3.25	1500	150	0.022	0.028	510	19.0 - 26.0	
SM45CXC614	N	M1163NCxx0	4000-4500	1163	2165	1910	600	5.30	1000	60	10800	11900	0.71X10 ⁶	150	1.50	0.77	2.65	1500	150	0.022	0.028	510	19.0 - 26.0	
SM45CXC624	N	M1104NCxx0	4000-4500	1104	2185	1884	863	3.80	1000	200	13000	14300	1.02X10 ⁶	50	1.37	0.553	2.20	1500	125	0.022	0.028	510	19.0 - 26.0	
SM36CXC824	N	M1242NCxx0	2600-3600	1242	2465	2108	698	2.90	1000	200	16400	18000	1.62X10 ⁶	60	1.27	0.420	2.20	2200	125	0.022	0.028	510	19.0 - 26.0	
SM26CXC915	N	M1609NCxx0	2000-2600	1609	3026	2580	551	3.00	1000	200	17500	19300	1.86X10 ⁶	150	1.31	0.345	2.07	2200	150	0.022	0.028	510	19.0 - 26.0	
SM25CXC924	N	M1495NCxx0	1600-2500	1494	2984	2506	280	3.70	1000	60	19600	21560	2.32X10 ⁶	85	1.15	0.265	2.34	4500	125	0.022	0.028	510	19.0 - 26.0	
SM45CXC394	N	M1565VCxx0	4000-4500	1565	3080	2700	1550	4.5	1000	200	19700	21700	2.35X10 ⁶	100	1.09	0.36	1.80	2000	125	0.018	0.022	1000	27.0 - 34.0	100A270
SM45CXC864	N	M1488VCxx0	4000-4500	1488	2755	2485	1125	4.10	1000	200	24800	27300	3.73X10 ⁶	150	1.38	0.71	2.80	2000	150	0.016	0.020	1000	27.0 - 34.0	
SM25CXC968	N	M2837VCxx0	1800-2500	2837	5300	4630	1650	4.40	1000	200	31800	35000	6.10X10 ⁶	100	0.90	0.17	1.41	3000	150	0.016	0.020	1000	27.0 - 34.0	
SM40CXC384	N	M2326ZCxx0	3000-4000	2322	4695	3819	1500*	5.5	1000	150	23000	25300	3.19X10 ⁶	150	1.67*	0.186	2.04	2000	125	0.011	0.014	1700	27.0 - 47.0	100A293
SM42CXC954	N	M2637ZCxx0	3600-4200	2640	4925	4315	1500*	5.5	1000	200	27520	30270	4.58X10 ⁶	150	1.38	0.29	2.25	3000	150	0.011	0.014	1700	27.0 - 47.0	
SM35CXC964	N	M2698ZCxx0	2500-3500	2698	4980	4545	1500	12.00	1000	150	27800	30600	4.70X10 ⁶	150	1.00	0.33	3.00	6000	150	0.011	0.014	1700	27.0 - 47.0	
SM30CXC974	N	M3770ZCxx0	2000-3000	3770	7114	5990	1125	4.10	1000	60	44000	30600	11.7X10 ⁶	150	1.19	0.118	1.740	4700	150	0.011	0.014	1700	27.0 - 47.0	
SM45CXC1084	N	TBA	3600-4500	Large Area 87mm Diode - Under development																				

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- Note 1 V_o Threshold Voltage) for conduction loss and heatsink calculations. (T_J = 125°C)
- r Slope resistance
- Note 2 I_{FSM} (8.3ms) = I_{FSM} (10ms) x 1.066 I²t (8.3ms) = I²t (10ms) x 0.943 at initial temperature T_J max
- Note 3 A blocking voltage derating factor of 0.13% per degree centigrade is applicable for T_J below 25°C
- Note 4 Capsule outlines available with the following compressed heights: Outline 100A249 27.0 / 25.5 = ordering code SMxxFCxxx, e.g. SM30FC864
Outline 100A270 25.6 / 26.9 = ordering code SMxxDXCxxx, e.g. SM30DXC964