

Protection Devices

- * Comprehensive portfolio of ESD with ultra low capacitance
- * Power TVS from 200W~30KW
- * Auto Grade power TVS

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Protection Devices

ESD Protection Devices

Part Number	Package	Protected Lines	Peak Power Dissipation	Reverse Standoff Voltage	Maximum Reverse Leakage Current	Test Current	Breakdown Voltage		Maximum Clamping Voltage	Maximum Peak Pulse Current	Junction Capacitance	Internal Structure
			P _{PK} (W)	V _{RWM} (V)	I _R (μA)	I _T (mA)	V _{BR} (V) Min	V _{BR} (V) Max	V _C (V)	I _{PP} (A)	C _J (pF)	
ESD1V8LB	DFN1006-2	1	100	1.8	0.2	1	2.5		8.5	12	30	Fig.1
ESDH1V8LB	DFN1006-2	1	300	1.8	0.2	1	2.5		8	38	80	Fig.1
ESDSB2V5AE2	0201-A	1	100	2.5	0.1	0.002	2.9		10	10	25	Fig.1
SLVU2.8-4	SOP-8	4	600	2.8	1	1	3		21	30	2	Fig.19
ESDLC3V3AE2	0201-A	1	30	3.3	0.2	1	4.3		10	3	3	Fig.1
ESDSBSLC3V3AE2	0201-A	1	34	3.3	0.05	1	7		9	16	0.5	Fig.40
ESDSBLC3V3AE2	0201-A	1	90	3.3	0.1	1	3.5		10	9	13	Fig.1
ESDH3V3AE2	0201-A	1	170	3.3	0.1	1	3.5		8.5	20	35	Fig.1
CSP3V3L	CSP1006-2	1	600	3.3	0.5	1	3.6	5.5	10.5	65	150	Fig.2
ESDLC3V3LB	DFN1006-2	1	20	3.3	0.1	1	4.3	6.8	11	1	3.1	Fig.1
ESDSBSLC3V3LB	DFN1006-2	1	34	3.3	0.05	1	7		9	4	0.5	Fig.40
ESDSBPLC3V3LB	DFN1006-2	1	53	3.3	0.05	1	7		7.5	7	1	Fig.40
ESDL3V3LB	DFN1006-2	1	80	3.3	0.05	0.002	3.5		8	8	25	Fig.1
ESDSBLC3V3LB	DFN1006-2	1	90	3.3	0.1	1	3.5		10	9	13	Fig.1
ESDSL3V3LB	DFN1006-2	1	100	3.3	0.05	1	5		20	5	0.3	Fig.1
ESDLC3V3L	DFN1006-2	1	150	3.3	0.5	0.002	3.5		15	10	20	Fig.2
ESD3V3L	DFN1006-2	1	300	3.3	1	1	4.2	6	15	20	250	Fig.2
ESDSB3V3LB	DFN1006-2	1	600	3.3	1	1	3.8		10	60	110	Fig.1
ESDLC3304P8	DFN2626-10	4	450	3.3	0.5	0.002	3.5		18	25	2	Fig.13
ESDLC3V3D3	SOD-323	1	350	3.3	20	1	4		36	28	4.5	Fig.3
ESDLC3V3D3B	SOD-323	1	350	3.3	1	1	4		36	28	4.5	Fig.18
ESDSL3V3D3B	SOD-323	1	350	3.3	0.1	1	4		8	20	1.5	Fig.18
ESD3V3D3B	SOD-323	1	500	3.3	0.5	0.002	4.2	6	17	30	200	Fig.1
ESD3V3D5B	SOD-523	1	96	3.3	0.5	1	4.2	6.5	12	8	16	Fig.1
ESDLC3V3D5	SOD-523	1	155	3.3	0.1	0.002	3.5		14.5	11	12	Fig.3
ESD3V3D5	SOD-523	1	220	3.3	0.08	1	5		13	16	105	Fig.2
ESD3V3D9B	SOD-923	1	80	3.3	1	1	4		8	1	8	Fig.1
ESD3V3D9	SOD-923	1	100	3.3	1	1	5		8.8	5	50	Fig.2
LC03-3.3	SOP-8	2	7200	3.3	0.5	0.002	3.5		48	150	16	Fig.20
ESD3V3AP	SOT-23	2	300	3.3	10	1	5	5.9	7.5	13.3	150	Fig.4
SM3.3B	SOT-23	2	350	3.3	1.5	1	4	6.5	10	25	100	Fig.26
SM3.3	SOT-23	2	360	3.3	1.5	1	5.2	6	20	18	200	Fig.4
SM3.3H	SOT-23	2	500	3.3	0.5	1	3.5		12.5	40	260	Fig.4
SRV33-4L	SOT23-6L	4	300	3.3	0.5	0.002	3.5	5.3	14	22	5	Fig.31
ESD4V5LB	DFN1006-2	1	540	4.5	0.5	1	4.8	6	12	45	100	Fig.1
ESD4571P6	DFN1610-2	1	2400	4.5	0.2	1	4.8		18	180	400	Fig.2
ESD4V5P4	DFN2020-3L	1	5000	4.5	2	1	4.8		18	280	680	Fig.35
ESD4V5P4B	DFN2020-3L	1	6000	4.5	1	1	4.8		20	300	350	Fig.36
ESDSBSLC5V0AE2	0201-A	1	44	5	0.05	1	6		14	4	0.5	Fig.40
ESDSBL5V0AE2	0201-A	1	96	5	0.1	1	6		12	8	13	Fig.1
ESDSL5V0AE2	0201-A	1	125	5	0.1	1	6.5		25	5	0.32	Fig.1
CSPSLC5V0AE	CSP0201	1	60	5	0.5	1	6		20	3	0.25	Fig.1
CSPLC5V0AE	CSP0201	1	90	5	0.5	1	5.8		10	9	20	Fig.1
CSP5V0AE	CSP0201	1	140	5	0.5	1	6		9.5	18	30	Fig.1

ESD Protection Devices

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			P _{PK} (W)	V _{RWM} (V)	I _R (μA)	I _T (mA)	V _{BR} (V) Min	V _{BR} (V) Max	V _C (V)	I _{PP} (A)	C _J (pF)	
CSPSBULC5V0LB	CSP1006-2	1	35	5	0.2	1	8	14	8	5	1	Fig.1
CSPSLC5V0LB	CSP1006-2	1	60	5	0.5	1	6	9	20	3	0.22	Fig.1
CSPULC5V0LB	CSP1006-2	1	80	5	0.5	1	6	8.5	22	4	0.45	Fig.1
CSPLC5V0LB	CSP1006-2	1	140	5	0.5	1	6		9.5	18	30	Fig.1
CSP5V0L	CSP1006-2	1	500	5	0.5	1	5.8	8	10.5	50	130	Fig.2
CSPH5V0LB	CSP1006-2	1	900	5	0.5	1	5.5	7.5	10.5	100	300	Fig.1
ESDLC0534DFN10	DFN-10	4	50	5	0.2	1	6	8.5	15	3	0.5	Fig.5
ESDLC0524DFN10	DFN-10	4	150	5	0.9	1	6.1	8.5	18	5	0.8	Fig.5
ESDLC0524F	DFN-10	4	150	5	0.9	1	6.1	9.6	15	5	0.8	Fig.5
ESDULC5V0LB	DFN1006-2	1	10	5	0.2	1	6		10	1	3	Fig.1
ESDSBLC5V0LB	DFN1006-2	1	41	5	0.1	1	5.3		12	3.5	4	Fig.1
ESDLC5V0L	DFN1006-2	1	80	5	0.1	1	6		16	4	0.7	Fig.3
ESDSBULC5V0LB	DFN1006-2	1	84	5	0.05	1	6		12	7	1	Fig.40
ESDSBL5V0LB	DFN1006-2	1	96	5	0.1	1	5.3		10	8	13	Fig.1
ESDLC5V0LB	DFN1006-2	1	100	5	0.5	1	6	9	20	4	0.35	Fig.1
ESDSB5V0LB	DFN1006-2	1	260	5	0.1	1	5.1		13	20	42	Fig.1
ESD5V0LB	DFN1006-2	1	400	5	0.5	1	6	9	16	25	100	Fig.1
ESDLC5V0L2B	DFN1006-2L	1	75	5	0.5	1	5.6		15	5	15	Fig.1
ESDLC5V0LTB	DFN1006-3	2	75	5	0.1	1	6.4		15	5	0.8	Fig.4
ESDSBL5V0LTB	DFN1006-3	2	96	5	0.1	1	5.3		12	8	11	Fig.26
ESD5V0PW	DFN1308-5	4	36	5	0.1	1	6.5	9	12	3	0.45	Fig.39
SRL05P7	DFN1510-6	4	90	5	0.9	1	6.1	9.6	17	5	0.8	Fig.34
ESD0551P1	DFN1608-2	1	1200	5	1	1	6		15	80	700	Fig.2
ESD0571P6	DFN1610-2	1	1875	5	1	1	6		15	125	650	Fig.2
ESDLC0502P6	DFN1610-6	2	75	5	0.5	1	6		15	5	0.8	Fig.7
ESDLC0524P3	DFN1616-6	4	230	5	0.1	1	6.5	9	14	17	1.3	Fig.23
ESDLC5V0PA6	DFN4120-10	6	100	5	0.5	1	6		25	4	0.4	Fig.16
ESD5V0D3B	SOD-323	1	120	5	1	1	5.8	8.8	15	8	27	Fig.1
ESD5V0D3	SOD-323	1	350	5	1	1	6.2	7.3	15.5	15	350	Fig.2
ESDLC5V0D3	SOD-323	1	350	5	5	1	6		32	21	5	Fig.3
ESDLC5V0D3B	SOD-323	1	350	5	1	1	6		32	21	5	Fig.18
ESDLC5V0D3B	SOD-323	1	350	5	0.5	1	6		28	18	1.5	Fig.18
SD05CH	SOD-323	1	500	5	0.2	1	6		15	34	200	Fig.1
ESDN5V0D3B	SOD-323	1	1620	5	0.5	1	6		13.5	120	300	Fig.1
ESDLC5V0D5	SOD-523	1	80	5	0.5	1	6		16	5	0.7	Fig.3
ESD5V0D5B	SOD-523	1	150	5	1	1	5.8	8.8	13	12	27	Fig.1
ESD5V0D5	SOD-523	1	174	5	0.05	1	6.2		18.6	9.4	80	Fig.2
ESDLC5V0D9L	SOD-923	1	75	5	0.5	1	5.4	6.5	15	5	0.9	Fig.3
ESDLC5V0D9	SOD-923	1	100	5	1	1	5.4	8.5	9.8	1	0.5	Fig.2
ESDLC5V0D9B	SOD-923	1		5	1	1	5.6	7.8			2.1	Fig.1
LSR05	SOT-143	2	90	5	0.5	1	6		18	5	0.4	Fig.21
SR05	SOT-143	2	500	5	0.5	1	6		20	25	6	Fig.21
ESDLC5V0T2	SOT-23	2	100	5	0.5	1	6		20	5	0.4	Fig.4
SM05	SOT-23	2	300	5	10	1	6.2	7.3	9.8	12	110	Fig.4

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			P _{PK} (W)	V _{RWM} (V)	I _R (μA)	I _T (mA)	V _{BR} (V) Min	V _{BR} (V) Max	V _C (V)	I _{PP} (A)	C _J (pF)	
SM05B	SOT-23	2	300	5	1	1	6		15	20	80	Fig.26
HSM05	SOT-23	2	320	5	0.5	1	6		14	23	160	Fig.4
SRV05-4D	SOT23-6L	4	72	5	0.1	1	7	9	12	6	0.8	Fig.23
SRL05	SOT23-6L	4	90	5	0.9	1	6.1	9.6	17	5	0.8	Fig.34
SRV05-4A	SOT23-6L	4	300	5	5	1	6		25	12	3	Fig.31
SRV05-4C	SOT23-6L	4	300	5	0.5	1	6	8.5	18	17	0.4	Fig.31
ESDU5V0T5	SOT-523	2	56	5	1	1	5.4	9.4	11	4	0.5	Fig.4
ESDA6V1L	SOT-23	2	300	5.25	20	1	6.1	7.2	16.5	18.5	140	Fig.4
ESDSB5V5AE2	0201-A	1	72	5.5	0.1	1	6.1		12	6	13	Fig.1
ESDSB5V5LB	DFN1006-2	1	42	5.5	0.1	1	7	9	14	3.6	0.65	Fig.2
ESDSB5V5LB	DFN1006-2	1	72	5.5	0.1	1	6.1		12	6	13	Fig.1
ESDLC5V0LB	DFN1006-2	1	80	5.5	0.2	1	6	8	10	8	20	Fig.1
ESDLC0504P3	DFN1616-6	3	60	5.5	0.5	1	6.5		12	5	0.4	Fig.10
ESDLC3603P3	DFN1616-6	3	100	5.5	0.5	1	6.5		20	5	0.5	Fig.9
ESDLC0554P3	DFN1616-6L	4	240	5.5	0.1	1	6	7.8	22	11	2	Fig.23
SRV05-4L	SOT23-6L	4	350	5.5	1	1	6		17.5	12	1.5	Fig.31
ESDLC7V0AE2	0201-A	1	100	7	0.2	1	7.5		17	6	15	Fig.1
CSPH7V0L	CSP1006-2	1	700	7	0.5	1	8		15	45	185	Fig.2
ESD7V0LB	DFN1006-2	1	80	7	0.2	1	7.5		16	5	15	Fig.1
ESDSB7V0LB	DFN1006-2	1	84	7	0.1	1	7.2	1.5	14	6	13	Fig.1
ESD7V0L	DFN1006-2	1	300	7	0.5	1	7.5		17	18	90	Fig.2
ESD0751P6	DFN1610-2	1	1800	7	1	1	8	10	17	100	900	Fig.2
ESD0771P6	DFN1610-2	1	1875	7	0.5	1	7.5		16.5	115	550	Fig.2
ESD7V0P4	DFN2020-3L	1	6000	7.5	1	1	8		22	275	1500	Fig.35
CSP8V0LB	CSP1006-2	1	150	8	0.5	1	9		20	9	12	Fig.1
ESDLC8V0D3B	SOD-323	1	350	8	1	1	8.5		31.6	18	3	Fig.18
ESDLC8V0D3B	SOD-323	1	350	8	0.2	1	8.5	1	19.5	18	1.5	Fig.18
SD08CH	SOD-323	1	500	8	0.2	1	8.5		18	30	120	Fig.1
ESD1051P6	DFN1610-2	1	1800	10	1	1	10.7	12.3	20	86	650	Fig.2
ESD1051P4	DFN2020-3L	1	4500	10	1	1	10.5	12.5	21	205	2600	Fig.35
ESDLC12VAE2	0201-A	1	100	12	0.2	1	13.3		20	5	10	Fig.1
CSP12VLB	CSP1006-2	1	150	12	0.2	1	13		21	8	12	Fig.1
CSPH12VL	CSP1006-2	1	1300	12	1	1	13	16.5	32	45	150	Fig.1
ESDLC12VLB	DFN1006-2	1	80	12	0.2	1	13.5		32	2.5	0.5	Fig.1
ESDLC12VLB	DFN1006-2	1	100	12	0.2	1	13.3		20	5	7	Fig.1
ESDSBLC12VLB	DFN1006-2	1	120	12	0.1	1	13		22	7	7	Fig.1
ESD0512LB	DFN1006-2	1	200	12	0.2	1	13, 6	16	20	10	40	Fig.1
ESD12VL	DFN1006-2	1	300	12	0.1	1	13.3		25	12	60	Fig.2
ESD12VLB	DFN1006-2	1	350	12	0.1	1	13.3		25	14	50	Fig.1
ESD1251P6	DFN1610-2	1	1800	12	1	1	12.8	14.6	22	75	510	Fig.2
ESD1271P6	DFN1610-2	1	1875	12	0.1	1	12.6		25	75	500	Fig.2
ESD1251P4	DFN2020-3L	1	4500	12	0.1	1	12.5	15	24	200	2000	Fig.35
ESD12VP4	DFN2020-3L	1	6000	12	1	1	13		30	200	550	Fig.35
ESD12VD3B	SOD-323	1	350	12	1	1	13.5		15.5	1	100	Fig.1

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			P _{PK} (W)	V _{RWM} (V)	I _R (μA)	I _T (mA)	V _{BR} (V) Min	V _{BR} (V) Max	V _C (V)	I _{PP} (A)	C _J (pF)	
ESDLC12VD3B	SOD-323	1	350	12	1	1	13.3		28.6	11	3	Fig.18
ESDULC12VD3B	SOD-323	1	500	12	0.2	1	13.3	17.8	29	12	1.5	Fig.18
SD12C	SOD-323	1	500	12	0.2	1	13.3		28	18	100	Fig.1
ESD12VD5	SOD-523	1	240	12	0.02	1	14.1		25	9.6	55	Fig.2
ESD12VD9	SOD-923	1	100	12	1	1	13.5		18.4	1	15	Fig.2
SM12B	SOT-23	2	300	12	0.5	1	13.3		30	10	32	Fig.26
SM712	SOT-23	2	400	12	1	1	13.3		25	13	45	Fig.26
SM712H	SOT-23	2	1000	12	0.1	1	13.3		25	25	75	Fig.26
ESDLC15VLB	DFN1006-2	1	150	15	0.2	1	16.2		25	6		Fig.1
ESD15VL	DFN1006-2	1	300	15	0.5	1	16.7	2	30	10	65	Fig.2
ESD1531P1	DFN1608-2	1	700	15	0.5	1	16.5		35	20	100	Fig.2
ESD1551P6	DFN1610-2	1	1800	15	1	1	15.5	18	30	60	380	Fig.2
ESD1551P4	DFN2020-3L	1	4500	15	0.1	1	15.5	18	28	160	1500	Fig.35
ESD1524D3B	SOD-323	1	160	15	0.05	1	17.1		35	5	10	Fig.18
ESD1524D3BHE3	SOD-323	1	160	15	0.05	1	17.1		50	5	10	Fig.1
ESDSL15VD3B	SOD-323	1	300	15	0.2	1	16.7		30	10	1.5	Fig.18
SD15CH	SOD-323	1	500	15	0.2	1	16.7		31	16	80	Fig.1
ESD15VD5	SOD-523	1	350	15	0.2	1	18	23	32	11	80	Fig.2
SM15B	SOT-23	2	300	15	0.2	1	17		35	8	25	Fig.26
SM15H	SOT-23	2	500	15	0.2	1	16.7		32	20	90	Fig.4
ESDSL16VLB	DFN1006-2	1	30	16	0.1	1	18		30	1	0.9	Fig.1
ESDSB18VAE2	0201-A	1	34	18	0.05	1	18.5		10	16	0.5	Fig.40
ESDSB18VLB	DFN1006-2	1	40	18	0.05	1	18.5		10	4	0.5	Fig.40
ESDSL18VLB	DFN1006-2	1	80	18	0.2	1	19		40	2	0.3	Fig.1
ESD1851P6	DFN1610-2	1	1800	18	1	1	19.2	22.5	35	50	310	Fig.2
ESD1851P4	DFN2020-3L	1	4500	18	0.1	1	18.5	21	33	150	1200	Fig.35
SM22	SOT-23	2	300	22	1	1	27		44	3	80	Fig.4
ESDSL24VAE2	0201-A	1	80	24	0.5	1	26.5		53	1.5		Fig.1
ESDSL24VLB	DFN1006-2	1	80	24	0.5	1	26.5		53	1.5	0.3	Fig.1
ESD24VLB	DFN1006-2	1	300	24	0.1	1	27		40	5	20	Fig.1
ESD2471P6	DFN1610-2	1	1875	24	0.1	1	26.7		53.5	35	200	Fig.2
ESD2451P4	DFN2020-3L	1	4500	24	0.1	1	24.5	28	38	120	1000	Fig.35
ESDLC24VD3B	SOD-323	1	350	24	1	1	26.7		45	6	3	Fig.18
ESDSL24VD3B	SOD-323	1	360	24	0.2	1	27		55	6	1.5	Fig.18
SD24C	SOD-323	1	450	24	1	1	26.7		62	8	50	Fig.1
SM24B	SOT-23	2	300	24	0.2	1	27		60	5	20	Fig.26
SM24BHE3	SOT-23	2	300	24	0.2	1	27		50	4	20	Fig.26
SM24BHE3A	SOT-23	2	300	24	0.2	1	27		50	4	20	Fig.26
HSM24BHE3	SOT-23	2	384	24	0.1	1	26.3	30.3	48	8	32	Fig.26
SD36CH	SOD-323	1	500	36	0.2	1	38		50	6	30	Fig.1
SM36B	SOT-23	2	300	36	0.2	1	38		90	3	15	Fig.26
SR70	SOT-143	2	168	70	5	0.05	85		7	24	10	Fig.22

Internal Structure

Internal Structure



Fig.1



Fig.2



Fig.3

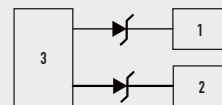


Fig.4

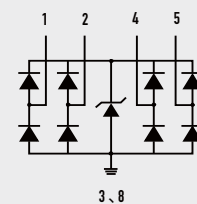


Fig.5

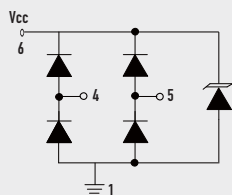


Fig.6

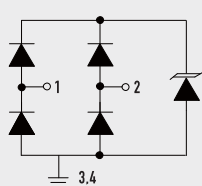


Fig.7

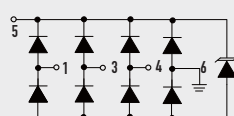


Fig.8

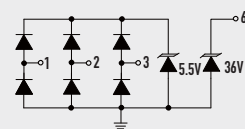


Fig.9

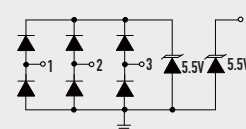


Fig.10

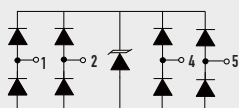


Fig.11

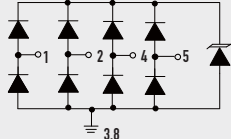


Fig.12

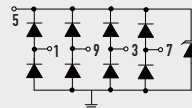


Fig.13

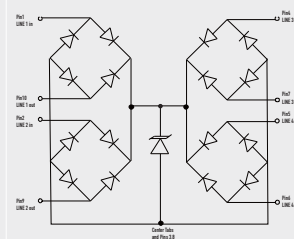


Fig.14

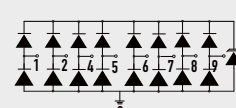


Fig.15

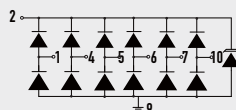


Fig.16

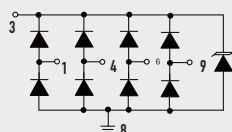


Fig.17



Fig.18

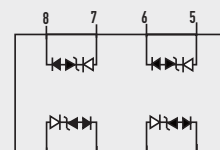


Fig.19

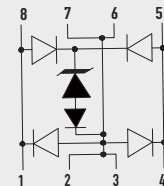


Fig.20

Internal Structure

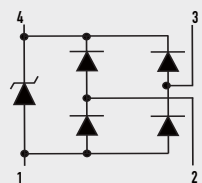


Fig.21

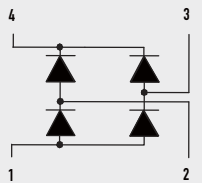


Fig.22

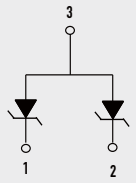


Fig.23

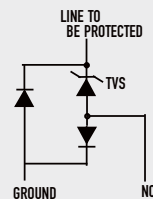


Fig.24

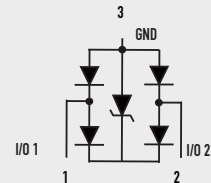


Fig.25

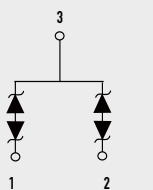


Fig.26

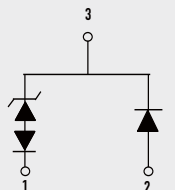


Fig.27

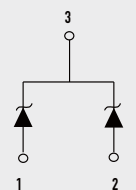


Fig.28

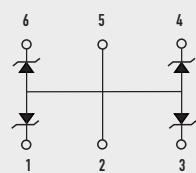


Fig.29

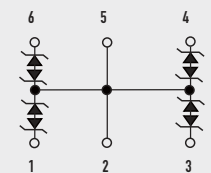


Fig.30

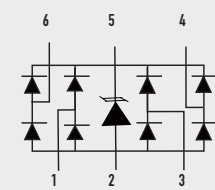


Fig.31

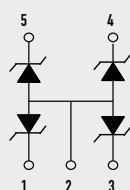


Fig.32

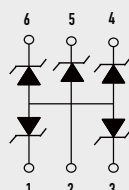


Fig.33

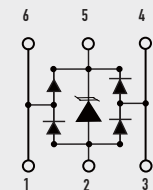


Fig.34



Fig.35



Fig.36

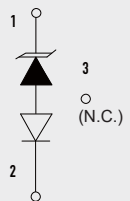


Fig.37

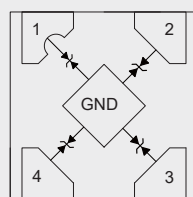


Fig.38

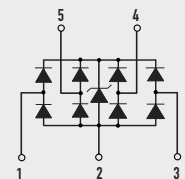


Fig.39

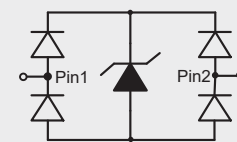


Fig.40

Protection Devices

200W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
SMF5.0A~SMF170A	Unidirectional	SOD-123FL	200	5.0~170	1~400	9.2~275	0.6~21.7	6.4~189	7~209	1~10
SMF5.0CA~SMF170CA	Bidirectional	SOD-123FL	200	5.0~170	1~400	9.2~275	0.6~21.7	6.4~189	7~209	1~10
SMF350A	Unidirectional	SOD-123FL	200	350	1	560	0.36	391	432	1

400W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
P4KE6.8A~P4KE550A	Unidirectional	DO-41	400	5.8~495	1~1000	10.5~760	0.52~39	6.45~522.5	7.14~577.5	1~10
P4KE6.8CA~P4KE550CA	Bidirectional	DO-41	400	5.8~495	1~1000	10.5~760	0.52~39	6.45~522.5	7.14~577.5	1~10
SM4F5.0A~SM4F85A	Unidirectional	SOD-123FL	400	5.0~85	1~400	9.2~137	2.2~43.5	6.4~94.4	7~104	1~10
SM4F11CA~SM4F20CA	Bidirectional	SOD-123FL	400	11~20	1	18.2~32.4	12.35~21.98	12.2~22.2	13.5~24.5	1
SMAF5.0A~SMAF300A	Unidirectional	DO-221AC	400	5~300	1~800	9.2~486	0.8~43.5	6.4~335	7~371	1~10
SMAF5.0CA~SMAF300CA	Bidirectional	DO-221AC	400	5~300	1~800	9.2~486	0.8~43.5	6.4~335	7~371	1~10
⚡ SMAJ10AHE3~SMAJ90AHE3	Unidirectional	SMA	400	10~190	1~5	17~308	1.3~23.5	11.1~211	12.3~232	1
⚡ SMAJ10CAHE3~SMAJ190CAHE3	Bidirectional	SMA	400	10~190	1~5	17~308	1.3~23.5	11.1~211	12.3~232	1
SMAJ5.0A~SMAJ440A	Unidirectional	SMA	400	5~440	1~800	9.2~713	0.6~43.5	6.4~492	7~543	1~10
SMAJ5.0CA~SMAJ440CA	Bidirectional	SMA	400	5~440	1~800	9.2~713	0.6~43.5	6.4~492	7~543	1~10
⚡ SMAJP4KE12AHE3~SMAJP4KE220AHE3	Unidirectional	SMA	400	10.2~185	1~5	16.7~328	1.2~24.6	11.4~209	12.6~231	1
⚡ SMAJP4KE12CAHE3~SMAJP4KE220CAHE3	Bidirectional	SMA	400	10.2~185	1~5	16.7~328	1.2~24.6	11.4~209	12.6~231	1
SMAJP4KE220AL~SMAJP4KE350AL	Unidirectional	SMA	400	185~300	1	328~482	0.9~1.3	209~332	231~368	1
SMAJP4KE6.8A~SMAJP4KE550A	Bidirectional	SMA	400	5.8~495	1~1000	10.5~760	0.5~39	6.4~522.5	7.14~577.5	1~10
SMAJP4KE6.8CA~SMAJP4KE550CA	Unidirectional	SMA	400	5.8~495	1~1000	10.5~760	0.5~39	6.4~522.5	7.14~577.5	1~10

500W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
P5KE5.0A~P5KE200A	Unidirectional	DO-15	500	5~200	3~600	9.2~324	1.5~54.3	6.4~220	7.25~256	1~10
P5KE5.0CA~P5KE200CA	Bidirectional	DO-15	500	5~200	3~600	9.2~324	1.5~54.3	6.4~220	7.25~256	1~10
SA5.0A~SA170A	Unidirectional	DO-15	500	5~170	1~600	9.2~275	1.9~55.4	6.4~189	7~209	1~10
SA5.0CA~SA170CA	Bidirectional	DO-15	500	5~170	1~600	9.2~275	1.9~55.4	6.4~189	7~209	1~10
SAC5.0~SAC50	Unidirectional	DO-15	500	5~50	5~300	10~88	5.8~44	7.6~55.5	-	1
SMBSAC5.0~SMBSAC50	Unidirectional	SMB	500	5.0~50	5~300	10~88	5.8~44	7.6~55.5	-	1

600W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
P6KE6.8A~P6KE600A	Unidirectional	DO-15	600	5.8~512	1~1000	10.5~828	0.75~57	6.45~570	7.14~630	1~10
P6KE6.8CA~P6KE600CA	Bidirectional	DO-15	600	5.8~512	1~1000	10.5~828	0.75~57	6.45~570	7.14~630	1~10
SAC136	Unidirectional	DO-15	600	136	1	219	2.7	150	170	1
SMA6F5.0A~SMA6F13A	Unidirectional	DO-221AC	600	5.0~13	5~800	9.2~20.4	29~68	6.4~14.4	7.07~15.9	1~10
SMA6J13AHE3~SMA6J40AHE3	Unidirectional	SMA	600	13~40	1	21.5~64.5	9.3~27.9	14.4~44.4	15.9~49.1	1
SMA6J13CAHE3~SMA6J40CAHE3	Bidirectional	SMA	600	13~40	1	21.5~64.5	9.3~27.9	14.4~44.4	15.9~49.1	1
SMA6J5.0AFL~SMA6J130AFL	Unidirectional	DO-221AC	600	5.0~130	1~800	9.2~209	2.9~65.2	6.4~144	7~159	1~10
SMA6J11CAFL~SMA6J85CAFL	Bidirectional	DO-221AC	600	11~85	1	18.2~137	4.4~33	12.2~94.4	13.5~104	1
SMA6J5.0A~SMA6J58A	Unidirectional	SMA	600	5~58	1~800	9.2~93.6	6.41~65.2	6.4~64.4	7~71.2	1~10
SMA6J5.0CA~SMA6J58CA	Bidirectional	SMA	600	5~58	1~800	9.2~93.6	6.41~65.2	6.4~64.4	7~71.2	1~10
SMBJ10AHE3~SMBJ190AHE3	Unidirectional	SMB	600	10~190	1~5	17~292	1.9~36.3	11.1~211	12.3~232	1
SMBJ10CAHE3~SMBJ190CAHE3	Bidirectional	SMB	600	10~190	1~5	17~292	1.9~36.3	11.1~211	12.3~232	1
SMBJ220AL~SMBJ440AL	Unidirectional	SMB	600	220~440	1	356~713	0.9~1.7	246~492	272~543	1
SMBJ220CAL~SMBJ440CAL	Bidirectional	SMB	600	220~440	1	356~713	0.9~1.7	246~492	272~543	1
SMBJ5.0A~SMBJ440A	Unidirectional	SMB	600	5~440	1~800	9.2~713	0.9~65.2	6.4~492	7~543	1~10
SMBJ5.0CA~SMBJ440CA	Bidirectional	SMB	600	5~440	1~800	9.2~713	0.9~65.2	6.4~492	7~543	1~10
SMBJP6KE12AHE3~SMBJP6KE220AHE3	Unidirectional	SMB	600	10.2~185	1~5	16.7~328	1.9~36.5	11.4~209	12.6~231	1
SMBJP6KE12CAHE3~SMBJP6KE220CAHE3	Bidirectional	SMB	600	10.2~185	1~5	16.7~328	1.9~36.5	11.4~209	12.6~231	1
SMBJP6KE250AL~SMBJP6KE400AL	Unidirectional	SMB	600	214~342	1	344~548	1.1~1.9	237~380	263~420	1
SMBJP6KE6.8A~SMBJP6KE550A	Unidirectional	SMB	600	5.8~495	1~1000	10.5~760	0.8~58.1	6.45~522.5	7.14~577.5	1~10
SMBJP6KE6.8CA~SMBJP6KE550CA	Bidirectional	SMB	600	5.8~495	1~1000	10.5~760	0.8~58.1	6.45~522.5	7.14~577.5	1~10

1000W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
SMB10J5.0A~SMB10J120A	Unidirectional	SMB	1000	5.0~120	1~800	9.2~193	5.18~108.7	6.4~133	7~147	1~10
SMB10J5.0CA~SMB10J120CA	Bidirectional	SMB	1000	5.0~120	1~800	9.2~193	5.18~108.7	6.4~133	7~147	1~10
SMBJ1.0KE6.8A~SMBJ1.0KE91A	Unidirectional	SMB	1000	5.8~77.8	1~900	10.5~125	8~95.2	6.46~86.45	7.14~95.55	1~10
SMBJ1.0KE6.8CA~SMBJ1.0KE91CA	Bidirectional	SMB	1000	5.8~77.8	1~900	10.5~125	8~95.2	6.46~86.45	7.14~95.55	1~10

Protection Devices

1500W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
1.5KE6.8A~1.5KE550A	Unidirectional	DO-201AE	1500	5.8~467	5~1000	10.5~760	2~144.8	6.45~522.5	7.14~577.5	1~10
1.5KE6.8CA~1.5KE550CA	Bidirectional	DO-201AE	1500	5.8~467	5~1000	10.5~760	2~144.8	6.45~522.5	7.14~577.5	1~10
LCE6.5A~LCE28A	Unidirectional	DO-201AE	1500	6.5~28	5~1000	11.2~45.5	33~100	7.22~31.3	7.98~34.4	1~10
SMB15J15A~SMB15J58A	Unidirectional	SMB	1500	15~58	5	24.4~93.6	16.03~61.48	16.7~64.4	18.5~71.2	1
SMB15J15CA~SMB15J58CA	Bidirectional	SMB	1500	15~58	5	24.4~93.6	16.03~61.48	16.7~64.4	18.5~71.2	1
SMCJ1.5KE12AHE3~SMCJ1.5KE220AHE3	Unidirectional	SMC	1500	10.2~185	1~5	16.7~328	4.6~91	11.4~209	12.6~231	1
SMCJ1.5KE12CAHE3~SMCJ1.5KE220CAHE3	Bidirectional	SMC	1500	10.2~185	1~5	16.7~328	4.6~91	11.4~209	12.6~231	1
SMCJ1.5KE6.8A~SMCJ1.5KE550A	Unidirectional	SMC	1500	5.8~495	5~1000	10.5~760	2~144.8	6.45~522.5	7.14~577.5	1~10
SMCJ1.5KE6.8CA~SMCJ1.5KE550CA	Bidirectional	SMC	1500	5.8~495	5~1000	10.5~760	2~144.8	6.45~522.5	7.14~577.5	1~10
SMCJ220AL~SMCJ350AL	Unidirectional	SMC	1500	220~350	1	356~567	2.6~4.2	246~391	272~432	1
SMCJ220CAL~SMCJ250CAL	Bidirectional	SMC	1500	220~250	1	356~405	3.7~4.2	246~279	272~309	1
SMCJ5.0A~SMCJ440A	Unidirectional	SMC	1500	5.0~440	1~800	9.2~713	2.1~163	6.4~492	7~543	1~10
SMCJ5.0CA~SMCJ440CA	Bidirectional	SMC	1500	5.0~440	1~800	9.2~713	2.1~163	6.4~492	7~543	1~10

3000W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
3KP5.0A~3KP220A	Unidirectional	R-6	3000	5~220	10~5000	9.2~371.1	8.1~326.1	6.4~244	7~270	5~50
3KP5.0CA~3KP220CA	Bidirectional	R-6	3000	5~220	10~5000	9.2~371.1	8.1~326.1	6.4~244	7~270	5~50
SMLJ10AHE3A~SMLJ48AHE3A	Unidirectional	SMC	3000	10~48	1~5	17~77.4	38.8~176.4	11.1~53.3	12.3~58.9	1
SMLJ10CAHE3A~SMLJ48CAHE3A	Bidirectional	SMC	3000	10~48	1~5	17~77.4	38.8~176.4	11.1~53.3	12.3~58.9	1
SMLJ10AHE3~SMLJ43AHE3	Unidirectional	SMC	3000	10~43	2~15	17~69.4	43.2~176.4	11.1~47.8	12.3~52.8	5
SMLJ10CAHE3~SMLJ43CAHE3	Bidirectional	SMC	3000	10~43	2~15	17~69.4	43.2~176.4	11.1~47.8	12.3~52.8	5
SMLJ5.0A~SMLJ440A	Unidirectional	SMC	3000	5~440	2~1000	9.2~713	4.21~326	6.4~492	7~543	1~10
SMLJ5.0CA~SMLJ440CA	Bidirectional	SMC	3000	5~440	2~1000	9.2~713	4.21~326	6.4~492	7~543	1~10

3600W/4600W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
SM5S10A~SM5S43A	Unidirectional	DO-218AB	3600	10~43	10~15	17~69.4	52~212	15.6~47.8	17.2~52.8	5
SM6S10A~SM6S43A	Unidirectional	DO-218AB	4600	10~43	10~15	17~69.4	66~271	11.1~47.8	12.3~52.8	5

5000W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
5.0SMLJ10AHE3~5.0SMLJ58AHE3	Unidirectional	SMC	5000	10~58	2~5	17.0~ 93.6	53.5~294.12	11.1~64.4	12.3~71.2	1
5.0SMLJ10CAHE3~5.0SMLJ58CAHE3	Bidirectional	SMC	5000	10~58	2~5	17.0~ 93.6	53.5~294.12	11.1~64.4	12.3~71.2	1
5.0SMLJ11A~5.0SMLJ400A	Unidirectional	SMC	5000	11~400	5~800	18.2~648	7.7~275	12.2~447	13.5~494	1~10
5.0SMLJ11CA~5.0SMLJ170CA	Bidirectional	SMC	5000	11~170	5~800	18.2~275	18.2~275	12.2~189	13.5~209	1~10
5KP5.0A~5KP440A	Unidirectional	R-6	5000	5~440	10~5000	9.2~713	7~543	6.4~492	7~543	5~50
5KP5.0CA~5KP440CA	Bidirectional	R-6	5000	5~440	10~5000	9.2~713	7~543	6.4~492	7~543	5~50

6000W/6600W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
SLD10A~SLD60A	Unidirectional	R-6	6000	10~60	10	17~96.8	61.5~350	11.8~68.4	13~75.6	5
SLD10CA~SLD60CA	Bidirectional	R-6	6000	10~60	10	17~96.8	61.5~350	11.8~68.4	13~75.6	5
SM8S10A~SM8S43A	Unidirectional	DO-218AB	6600	10~43	10~15	17~69.4	95.1~388	11.1~47.8	12.3~52.8	5
SM8S14CA~SM8S43CA	Bidirectional	DO-218AB	6600	14~43	10	23.2~69.4	95.1~284	15.6~47.8	17.2~52.8	5

Protection Devices

15000W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
15KP17A~15KP280A	Unidirectional	R-6	15000	17~280	10~5000	29.3~452	33~512	18.9~311	20.79~342.4	5~50
15KP17CA~15KP280CA	Bidirectional	R-6	15000	17~280	10~5000	29.3~452	33~512	18.9~311	20.79~342.4	5~50

30000W TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
30KP28A~30KP288A	Unidirectional	R-6	30000	28~288	10~5000	50~469.9	64.5~606	31.28~321.7	34.24~352.2	5~50
30KP28CA~30KP288CA	Bidirectional	R-6	30000	28~288	10~5000	50~469.9	64.5~606	31.28~321.7	34.24~352.2	5~50

AK/SME/SMG Package TVS

Part Number	Polarity	Package	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Reverse Leakage	Max. Clamping Voltage	Peak Pulse Current	Breakdown Voltage		Test Current
			P _{PK} (W)	V _{RWM} (V)	I _R (uA)	V _C (V)	I _{PP} (A)	V _{BR} (V) Min	V _{BR} (V) Max	I _T (mA)
SMEJ58CA~SMEJ86CA	Bidirectional	SME	-	58~86	5	110~157	10000	64~96	70~107	10
SMGJ80CA	Bidirectional	SMG	-	80	5	130	2500	90	110	1
AK1-076C~AK15-076C	Bidirectional	AK	-	30~430	20	90~625	1K~15K	32~440	-	10