

Protection Devices

§ TVS

§ ESD Protection

§ Programmable TSS

Protection Devices



Automotive ESD Protection

Part Number	Package	Protected Lines	Configuration	Reverse Standoff Voltage	Max. Peak Pulse Current	Max. Clamping Voltage	Max. Reverse Leakage	Breakdown Voltage		Peak Power Dissipation	Junction Capacitance	IEC61000-4-2 Air/Contact	Operating Junction Temperature
				V _{RWM} (V)	I _{pp} (A)	V _c (V)	I _a (uA)	V _{BR} (V) Min	V _{BR} (V) Max	P _{PK} (W)	C _J (pF)	V _{ESD} (kV)	T _J (°C)
ESD5LC0524DFN10HE3	DFN-10	4	Unidirectional	5	5	13	0.1	6	9	60	0.9	±25/±20	125
ESD5LC5V0LBHE3	DFN1006-2	1	Bidirectional	5	4	20	0.5	6	9	80	0.35	±20/±15	125
ESDULC3V3LBHE3	DFN1006-2L	1	Bidirectional	3.3	4	20	0.1	4.8	7	80	0.65	±16	150
ESDL3V3LBHE3	DFN1006-2L	1	Bidirectional	3.3	8	9	0.1	4.5	6.5	60	25	±30	150
ESDSB3V3LBHE3	DFN1006-2L	1	Bidirectional	3.3	9	10	1	3.5	6	90	25	±30	150
ESDHSB3V3LBHE3	DFN1006-2L	1	Bidirectional	3.3	14	10	1	3.7	5	140	50	±30	150
ESDULC5V0LBHE3	DFN1006-2L	1	Bidirectional	5	4	25	0.1	6	9.5	100	0.6	±16	150
ESDSB5V0LBHE3	DFN1006-2L	1	Bidirectional	5	7	10	1	5.7	8	70	20	±30	150
ESDLC5V0LBHE3	DFN1006-2L	1	Bidirectional	5	8	10	0.1	6	8	80	15	±30	150
ESDHSB5V0LBHE3	DFN1006-2L	1	Bidirectional	5	11	11	1	5.7	8	121	40	±30	150
ESD7V0LBHE3	DFN1006-2L	1	Bidirectional	7	6	15	0.5	7.5	10.5	90	23	±30	150
ESD7V0LHE3	DFN1006-2L	1	Unidirectional	7	6	15	0.5	7.5	10.5	90	46	±30	150
ESDULC8V0LBHE3	DFN1006-2L	1	Bidirectional	8	3.5	26	0.2	9.5	11.5	90	0.5	±25/±20	125
ESDLC8V0LBHE3	DFN1006-2L	1	Bidirectional	8	8	18	0.2	9	-	140	10	±30	150
ESD12VLBHE3	DFN1006-2L	1	Bidirectional	12	5	30	0.5	13.5	16.5	150	12	±30	150
ESD12VLHE3	DFN1006-2L	1	Unidirectional	12	5	30	0.5	13.5	16.5	150	24	±30	150
ESDLC12VLBHE3	DFN1006-2L	1	Bidirectional	12	5	20	0.2	13.3	-	100	10	±30	150
ESD15VLBHE3	DFN1006-2L	1	Bidirectional	15	4	35	0.5	15.5	19.5	140	10	±30	150
ESD15VLHE3	DFN1006-2L	1	Unidirectional	15	4	35	0.5	15.5	19.5	140	20	±30	150
ESD24VLBHE3	DFN1006-2L	1	Bidirectional	24	3.5	45	0.5	25.5	29.5	150	8.5	±30	150
ESD24VLHE3	DFN1006-2L	1	Unidirectional	24	3.5	45	0.5	25.5	29.5	150	17	±30	150
ESD27VLBHE3	DFN1006-2L	1	Bidirectional	27	2.5	75	0.5	31	38	180	6.5	±30	150
ESD27VLHE3	DFN1006-2L	1	Unidirectional	27	2.5	75	0.5	31	38	180	13	±8	150
ESD36VLBHE3	DFN1006-2L	1	Bidirectional	36	2.5	80	0.5	38	48	200	6	±30	150
ESD36VLHE3	DFN1006-2L	1	Unidirectional	36	2.5	80	0.5	38	48	200	12	±30	150
ESD5LC3V3LWFHE3	DFN1006-2L(SWF)	1	Unidirectional	3.3	4	20	0.2	6	8.5	60	1	±20	150
ESDULC3V3LBWFHE3	DFN1006-2L(SWF)	1	Bidirectional	3.3	4	20	0.2	6	9.5	60	0.5	±20	150
ESDULC5V0LBWFHE3	DFN1006-2L(SWF)	1	Bidirectional	5	3	20	0.2	6	8.5	50	0.3	±15/±8	150
ESDULC5V0LWFHE3	DFN1006-2L(SWF)	1	Unidirectional	5	3	20	0.2	6	8.5	50	0.5	±15/±8	150
ESD5LC5V0LWFHE3	DFN1006-2L(SWF)	1	Unidirectional	5	4	20	0.2	6	8.5	60	1	±20	150
ESDULC5V0PUBWFHE3	DFN1110-3(SWF)	2	Bidirectional	5	4	14	0.2	6	-	56	0.3	±30	125
ESDSBLC24VPUBWFHE3	DFN1110-3(SWF)	2	Bidirectional	24	5	34	0.2	26.5	-	170	5	±30	125
ESDSBLC2424P5WFHE3	DFN2510-10(SWF)	4	Bidirectional	24	5	35	0.2	26.5	36	170	9	±30	125
ESDL3V3D3BHE3	SOD-323	1	Bidirectional	3.3	9	10	1	3.5	6	90	25	±30	150
ESDL5V0D3BHE3A	SOD-323	1	Bidirectional	5	7	10	1	5.8	8	70	20	±30	150
ESD5V0D3HE3	SOD-323	1	Unidirectional	5	20	15	1	6.2	7.5	300	160	±30	150
ESDSB5V0D3BHE3	SOD-323	1	Bidirectional	5	24	17	1	6	-	400	100	±30	150
ESDHSV0D3HE3	SOD-323	1	Unidirectional	5	30	20	1	6.2	7.5	600	220	±30	150
ESD12VD3BHE3	SOD-323	1	Bidirectional	12	10	28	1	13.3	-	280	50	±30	150
ESD12VD3HE3	SOD-323	1	Unidirectional	12	10	28	1	13.3	16.5	280	70	±30	150
ESD1524D3BHE3A	SOD-323	1	Asymmetric	15	5	35	0.05	17.1	20.3	160	30	±30	150
ESD15VD3BHE3	SOD-323	1	Bidirectional	15	5	28.5	1	16.7	-	250	45	±30	150
ESD15VD3HE3	SOD-323	1	Unidirectional	15	8	35	1	16.5	19	250	55	±30	150
ESD24VD3BHE3	SOD-323	1	Bidirectional	24	7	44	1	26.7	-	300	40	±30	150

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				V _{RWM} (V)	I _{pp} (A)	V _c (V)	I _a (uA)	V _{BR} (V) Min	V _{BR} (V) Max	P _{pk} (W)	C _j (pF)	V _{ESD} (kV)	T _j (°C)
ESD24VD3HE3	SOD-323	1	Unidirectional	24	7	44	1	26.7	-	300	50	±30	150
ESD27VD3BHE3	SOD-323	1	Bidirectional	27	4	65	0.5	28.5	-	260	20	±30	150
ESD36VD3BHE3	SOD-323	1	Bidirectional	36	5	75	1	40	-	350	35	±30	150
ESD36VD3HE3	SOD-323	1	Unidirectional	36	5	75	1	40	44	350	35	±30	150
ESDL3V3D5BHE3	SOD-523	1	Bidirectional	3.3	9	10	1	3.5	6	90	25	±30	150
ESDSBL5V0D5BHE3	SOD-523	1	Bidirectional	5	7	10	1	5.7	8	70	20	±30	150
ESD5V0D5HE3	SOD-523	1	Unidirectional	5	20	15	1	6.2	7.5	300	160	±30	150
ESD12VD5HE3	SOD-523	1	Unidirectional	12	10	28	1	13.3	16.5	280	70	±30	150
ESD15VD5HE3	SOD-523	1	Unidirectional	15	8	35	1	16.5	19	250	55	±30	150
ESD24VD5HE3	SOD-523	1	Unidirectional	24	7	44	1	26.7	-	300	50	±30	150
ESD36VD5HE3	SOD-523	1	Unidirectional	36	5	75	1	40	44	350	35	±30	150
ESD3V3T2BHE3	SOT-23	2	Bidirectional	3.3	25	16	0.5	5	7	400	100	±30	150
ESD5V0T2HE3	SOT-23	2	Unidirectional	5	20	15	1	6.2	7.5	300	160	±30	150
ESD5V0T2HE3	SOT-23	2	Unidirectional	5	20	15	1	6.2	7.5	300	160	±30	150
ESDSB5V0T2BHE3	SOT-23	2	Bidirectional	5	24	17	1	6	7.5	400	100	±30	150
ESD7V0T2BHE3	SOT-23	2	Bidirectional	7	17	15	0.5	7	10	255	63	±30	150
MMBZ15VAQ	SOT-23	2	Unidirectional	12	1.9	21	0.05	14.25	15.75	40	95	±30	150
MMBZ15VCQ	SOT-23	2	Unidirectional	12	1.9	21	0.05	14.25	15.75	40	95	±30	150
ESD12VET2HE3	SOT-23	2	Unidirectional	12	10	28	1	13.1	16.5	280	70	±30	150
ESD12VT2BHE3	SOT-23	2	Bidirectional	12	10	30	0.1	13.5	16.7	300	35	±30	150
ESD12VT2HE3	SOT-23	2	Unidirectional	12	10	28	1	13.1	16.5	280	70	±30	150
MMBZ16VAQ	SOT-23	2	Unidirectional	13	1.7	23	0.05	15.2	16.8	40	89	±30	150
MMBZ16VCQ	SOT-23	2	Unidirectional	13	1.7	23	0.05	15.2	16.8	40	89	±30	150
MMBZ18VAQ	SOT-23	2	Unidirectional	14.5	1.6	25	0.05	17.1	18.9	40	79	±30	150
MMBZ18VCQ	SOT-23	2	Unidirectional	14.5	1.6	25	0.05	17.1	18.9	40	79	±30	150
ESD15VET2HE3	SOT-23	2	Unidirectional	15	8	35	1	16.1	19	280	55	±30	150
ESD15VT2HE3	SOT-23	2	Unidirectional	15	8	35	1	16.1	19	280	55	±30	150
ESD15VT2BHE3	SOT-23	2	Bidirectional	15	9	30	0.5	16	19	270	26	±30	150
SM15BHE3	SOT-23	2	Bidirectional	15	10	35	0.2	16.7	21	350	35	±30	125
MMBZ20VAHE3	SOT-23	2	Unidirectional	17	1.4	28	0.05	19	21	40	-	±30	150
MMBZ20VCHE3	SOT-23	2	Unidirectional	17	1.4	28	0.05	19	21	40	-	±30	150
MMBZ27VAHE3	SOT-23	2	Unidirectional	22	1	40	0.05	25.65	28.35	40	-	±30	150
MMBZ27VCHE3	SOT-23	2	Unidirectional	22	1	40	0.05	25.65	28.35	40	-	±30	150
ESDSBLC24VT2BHE3	SOT-23	2	Bidirectional	24	2.5	27	0.1	105	125	65	3.8	±30	150
ESDLC24VT2BHE3	SOT-23	2	Bidirectional	24	5	36	0.05	25.5	35.5	180	10	±30	150
SM24BHE3	SOT-23	2	Bidirectional	24	5	60	0.2	27	-	300	15	±30	125
ESD24VET2HE3	SOT-23	2	Unidirectional	24	7	44	1	26.7	-	300	50	±30	150
ESD24VT2BHE3	SOT-23	2	Bidirectional	24	7	44	0.1	26.2	32	308	30	±30	150
ESD24VT2HE3	SOT-23	2	Unidirectional	24	7	44	1	26.7	-	300	50	±30	150
HSM24BHE3	SOT-23	2	Bidirectional	24	8	48	0.1	26.3	30.3	384	32	±30	150
MMBZ33VAQ	SOT-23	2	Unidirectional	26	0.87	47	0.05	31.35	35.65	40	48	±30	150
MMBZ33VCQ	SOT-23	2	Unidirectional	26	0.87	47	0.05	31.35	35.65	40	48	±30	150
ESD27VT2BHE3	SOT-23	2	Bidirectional	27	6	70	0.5	31	38	420	13	±30	150
MMBZ39VAQ	SOT-23	2	Unidirectional	31.2	0.76	55	0.05	37.05	40.95	40	42	±30	150

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				V _{RWM} (V)	I _{pp} (A)	V _c (V)	I _a (uA)	V _{BR} (V) Min	V _{BR} (V) Max	P _{pk} (W)	C _j (pF)	V _{ESD} (kV)	T _j (°C)
MMBZ39VCQ	SOT-23	2	Unidirectional	31.2	0.76	55	0.05	37.05	40.95	40	42	±30	150
ESD36VET2HE3	SOT-23	2	Unidirectional	36	5	75	1	40	44.5	350	35	±30	150
ESD36VT2BHE3	SOT-23	2	Bidirectional	36	5	90	0.5	38	48	450	30	±30	150
ESD36VT2HE3	SOT-23	2	Unidirectional	36	5	75	1	40	44.5	350	35	±30	150

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				V _{RWM} (V)	I _{PP} (A)	V _C (V)	I _A (μ A)	V _{BR} (V) Min	V _{BR} (V) Max	P _{PK} (W)	C _J (pF)	V _{ESD} (kV)	T _J (°C)
ESD3V3D3A	SOD-323	1	Unidirectional	3.3	18	12	0.5	4.5	-	200	200	±30	125
ESDSBLC3V3D3	SOD-323	1	Unidirectional	3.3	18	7.5	0.05	8.5	-	135	3	±30	125
ESDSL3V3D3B	SOD-323	1	Bidirectional	3.3	20	8	0.1	4	-	350	1.5	±30	150
GBLC03CD3B	SOD-323	1	Bidirectional	3.3	21	20	0.5	4.2	-	350	0.5	±25/±20	125
ESDLC3V3D3B	SOD-323	1	Bidirectional	3.3	28	36	1	4	-	350	4.5		150
ESD3V3D3BA	SOD-323	1	Bidirectional	3.3	29	11	0.5	3.7	6	320	70	±30	125
ESD3V3D3B	SOD-323	1	Bidirectional	3.3	30	17	0.5	4.2	6	500	200	±30	125
ESDSB3V3D3B	SOD-323	1	Bidirectional	3.3	35	13	0.5	4	6.5	400	80	±30	125
ESDN4V5D3B	SOD-323	1	Bidirectional	4.5	135	15	1	4.7	-	2000	300	±30	125
ESDSB5V0D3B	SOD-323	1	Bidirectional	5	7	11	0.05	6	-	77	0.8	±30	125
ESD5V0D3B	SOD-323	1	Bidirectional	5	8	15	1	5.8	8.8	120	27	±25	150
ESD5V0D3	SOD-323	1	Unidirectional	5	15	15.5	1	6.2	7.3	350	350	±15/±8	150
ESD5V0D3A	SOD-323	1	Unidirectional	5	15	14	0.5	6.2	-	200	140	±30	125
ESDSL5V0D3B	SOD-323	1	Bidirectional	5	18	20	0.5	6	-	350	1.5	±30	125
GBLC05CD3B	SOD-323	1	Bidirectional	5	18	22	0.5	6.1	-	350	0.5	±25/±20	125
ESDLC5V0D3	SOD-323	1	Unidirectional	5	21	32	5	6	-	350	5	±30	150
ESDLC5V0D3B	SOD-323	1	Bidirectional	5	21	32	1	6	-	350	5		150
ESDH5V0D3	SOD-323	1	Unidirectional	5	30	20	1	5.5	7.5	600	220	±30KV	125
ESDH5V0D3BA	SOD-323	1	Bidirectional	5	30	12	1	5.5	8	360	80	±25	125
SD05CH	SOD-323	1	Bidirectional	5	34	15		6	-	500	200	±30	125
ESDN5V0D3B	SOD-323	1	Bidirectional	5	120	13.5	0.5	6	-	1620	300	±30	125
ESDLC8V0D3B	SOD-323	1	Bidirectional	8	18	31.6	1	8.5	-	350	3	±30	150
ESDSL8V0D3B	SOD-323	1	Bidirectional	8	18	19.5	0.2	8.5	10	350	1.5	±30	150
GBLC08CD3B	SOD-323	1	Bidirectional	8	21	26	0.5	9.4	-	350	0.5	±25/±20	125
SD08CH	SOD-323	1	Bidirectional	8	30	18		8.5	-	500	120	±30	125
ESD12VD3B	SOD-323	1	Bidirectional	12	1	15.5	1	13.5	-	350	100	±30	150
ESD12VD3A	SOD-323	1	Unidirectional	12	10	28	0.5	13.3	-	200	55	±30	125
ESD12VD3BA	SOD-323	1	Bidirectional	12	10	28	1	13	-	250	30	±30	150
ESDLC12VD3B	SOD-323	1	Bidirectional	12	11	28.6	1	13.3	-	350	3		150
ESDULC12VD3B	SOD-323	1	Bidirectional	12	12	29	0.2	13.3	17.8	500	1.5	±30	125
SD12C	SOD-323	1	Bidirectional	12	18	28		13.3	-	500	100	±30	125
ESDSL12VD3B	SOD-323	1	Bidirectional	12	19	28	0.2	13.3	-	500	1	±30	125
ESD1524D3B	SOD-323	1	Asymmetric	15	5	35	0.05	17.1	-	160	13	±30	85
ESD15VD3A	SOD-323	1	Unidirectional	15	8	35	0.5	16.5	-	200	45	±30	125
ESD15VD3BA	SOD-323	1	Bidirectional	15	9	38	1	15.5	-	250	22	±30	150
ESDSL15VD3B	SOD-323	1	Bidirectional	15	10	30	0.2	16.7	-	300	1.5	±30	125
SD15CH	SOD-323	1	Bidirectional	15	16	31		16.7	-	500	80	±30	125
ESD18VD3A	SOD-323	1	Unidirectional	18	8	38	0.5	19	-	200	39	±30	125
ESD18VD3BA	SOD-323	1	Bidirectional	18	8	40	1	19	-	250	20	±30	150
ESDSL18VD3B	SOD-323	1	Bidirectional	18	8	45	0.2	19.8	25	350	3	±30	125
ESDLC24VD3B	SOD-323	1	Bidirectional	24	6	45	1	26.7	-	350	3	±30	150
ESDSL24VD3B	SOD-323	1	Bidirectional	24	6	55	0.2	27	-	360	1.5	±30	125
GBLC24CD3B	SOD-323	1	Bidirectional	24	6	58	0.5	26.1	-	350	0.5	±25/±20	125
ESD24VD3A	SOD-323	1	Unidirectional	24	7	50	0.5	25	-	200	50	±30	125

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				V _{RWM} (V)	I _{PP} (A)	V _C (V)	I _A (μ A)	V _{BR} (V) Min	V _{BR} (V) Max	P _{PK} (W)	C _J (pF)	V _{ESD} (kV)	T _J (°C)
ESD24VD3BA	SOD-323	1	Bidirectional	24	7	44	1	26	-	250	20	±30	150
SD24C	SOD-323	1	Bidirectional	24	8	62		26.7	-	450	50		125
ESDSL36VD3B	SOD-323	1	Bidirectional	36	4.5	75	0.2	38	-	340	0.8	±25	125
ESD36VD3A	SOD-323	1	Unidirectional	36	5	75	0.5	40	-	200	24	±30	125
ESD36VD3BA	SOD-323	1	Bidirectional	36	5	75	1	39	-	250	13	±30	150
SD36CH	SOD-323	1	Bidirectional	36	6	50		38	-	500	30	±30	125
ESDULC3V3D5B	SOD-523	1	Bidirectional	3.3	4	25	0.2	5	-	100	0.3	±20	125
ESD3V3D5B	SOD-523	1	Bidirectional	3.3	8	12	0.5	4.2	6.5	96	16	±30	125
ESDLC3V3D5	SOD-523	1	Unidirectional	3.3	11	14.5	0.1	3.5	-	155	20	±30	125
ESDSB3V3D5B-T3P	SOD-523	1	Bidirectional	3.3	13	9	0.1	3.5	-	140	28	±30	125
ESD3V3D5	SOD-523	1	Unidirectional	3.3	16	13	0.08	5	-	220	105	±30	150
ESD3V3D5BA	SOD-523	1	Bidirectional	3.3	18	10	0.5	3.7	6	180	60	±30	125
ESDULC5V0D5B	SOD-523	1	Bidirectional	5	2	12	0.2	6	9	24	0.4	±20	125
ESDSL5V0D5	SOD-523	1	Unidirectional	5	5	16	0.5	6	-	80	0.7	±25	125
ESD5V0D5	SOD-523	1	Unidirectional	5	9.4	18.6	0.05	6.2	-	174	80	±30	150
ESD5V0D5B	SOD-523	1	Bidirectional	5	12	13	1	5.8	8.8	150	27	±30	150
ESD5V0D5BS	SOD-523	1	Bidirectional	5	15	14	0.01	6	8	200	50	±30	125
ESDH5V0D5	SOD-523	1	Unidirectional	5	22	14	0.5	6	-	300	160	±30	125
ESD7V0D5	SOD-523	1	Unidirectional	7	8.8	22.7	0.03	7.5	-	200	65	±30	150
ESD12VD5	SOD-523	1	Unidirectional	12	9.6	25	0.02	14.1	-	240	55	±30	150
ESD15VD5	SOD-523	1	Unidirectional	15	11	32	0.2	18	23	350	80	±30	125
ESDSBLC20VD5B	SOD-523	1	Bidirectional	20	4	36	0.1	24	31.5	145	5	±30	125
ESDSBLC24VD5B	SOD-523	1	Bidirectional	24	5	32	0.5	25	-	160	5	±30	125
ESD24VD5	SOD-523	1	Unidirectional	24	7.5	44	1	26.7	33	330	36	±25	150
ESD3V3D9B	SOD-923	1	Bidirectional	3.3	1	8	1	4	-	80	8	±30	150
ESD3V3D9	SOD-923	1	Unidirectional	3.3	5	8.8	1	5	-	100	50	±15/±8	150
ESDLC5V0D9	SOD-923	1	Unidirectional	5	1	9.8	1	5.4	8.5	100	0.5	±15/±8	150
ESDLC5V0D9L	SOD-923	1	Unidirectional	5	5	15	0.5	5.4	6.5	75	0.9	±25/±20	125
ESDLC5V0D9B	SOD-923	1	Bidirectional	5			1	5.6	7.8		2.1	±15/±8	150
ESD12VD9	SOD-923	1	Unidirectional	12	1	18.4	1	13.5	-	100	15	±30	150
SLVU2.8-4	SOP-8	4	Unidirectional	2.8	30	20		3	-	600	3	±30	125
LC03-3.3	SOP-8	2	Unidirectional	3.3	150	48	0.5	3.5	-	7200	16	±30	125
ESDSL5V0T1	SOT-143	2	Asymmetric	5	4	16	1	6	9	50	0.3	±25/±20	150
LSR05	SOT-143	2	Unidirectional	5	5	12	0.5	6	-	90	0.4	±30	125
SR05	SOT-143	2	Unidirectional	5	25	20		6	-	500	6	±30	125
SR70	SOT-143	2	Unidirectional	70	24	7		85	-	168	10	±15/±8	150
ESD3V3AP	SOT-23	2	Unidirectional	3.3	13.3	7.5	10	5	5.9	300	150	±15/±8	150
SM3.3	SOT-23	2	Unidirectional	3.3	18	20		5.2	6	360	200	±17/±20	125
ESD3V3T2B	SOT-23	2	Bidirectional	3.3	25	16	0.5	5	-	250	100	±30	150
SM3.3B	SOT-23	2	Bidirectional	3.3	25	10		4	6.5	350	100	±30	150
SM3.3H	SOT-23	2	Unidirectional	3.3	40	12.5		3.5	-	500	260	±30	125
ESDL5V0T2B	SOT-23	2	Bidirectional	5	2	14	0.2	5.6	9.5	28	5	±15/±8	125
ESDULC5V0T2	SOT-23	2	Unidirectional	5	3.5	12	0.1	7	9	42	0.65	±20	125
ESDSL5V0T2	SOT-23	2	Unidirectional	5	5	20	0.5	6	-	100	0.4	±20/±15	150

Protection Devices

ESD Protection

Part Number	Package	Protected Lines	Configuration	Reverse Standoff Voltage	Max. Peak Pulse Current	Max. Clamping Voltage	Max. Reverse Leakage	Breakdown Voltage		Peak Power Dissipation	Junction Capacitance	IEC61000-4-2 Air/Contact	Operating Junction Temperature
				V _{RWM} (V)	I _{pp} (A)	V _c (V)	I _a (uA)	V _{BR} (V) Min	V _{BR} (V) Max	P _{pk} (W)	C _j (pF)	V _{ESD} (kV)	T _j (°C)
SM05	SOT-23	2	Unidirectional	5	12	9.8		6.2	7.3	300	110	±15/±8	150
ESD5V0ET2	SOT-23	2	Unidirectional	5	20	15	1	6	-	250	140	±30	150
ESD5V0T2	SOT-23	2	Unidirectional	5	20	15	1	6	-	250	140	±30	150
SM05B	SOT-23	2	Bidirectional	5	20	15		6	-	300	80	±30	125
HSM05	SOT-23	2	Unidirectional	5	23	14	0.5	6	-	320	160	±30	125
ESDA6V1L	SOT-23	2	Unidirectional	5.25	18.5	16.5	20	6.1	7.2	300	140		150
ESD7V0T2B	SOT-23	2	Bidirectional	7	17	15	0.5	7	-	250	65	±30	150
ESD12VET2	SOT-23	2	Unidirectional	12	10	28	1	13	-	250	55	±30	150
ESD12VT2	SOT-23	2	Unidirectional	12	10	28	1	13	-	250	55	±30	150
ESD12VT2B	SOT-23	2	Bidirectional	12	10	30	0.5	13	-	250	35	±30	150
SM12B	SOT-23	2	Bidirectional	12	10	30		13.3	-	300	32	±30	125
LSM712	SOT-23	2	Asymmetric	12	12	20	0.5	13.3	-	240	25	±30	125
SM712	SOT-23	2	Asymmetric	12	13	25		13.3	-	400	45	±30	150
ESDH12VT2	SOT-23	2	Unidirectional	12	25	26	0.1	13	17	650	110	±30	125
SM712H	SOT-23	2	Asymmetric	12	36	28		13.3	-	1000	75	±30	125
SM15B	SOT-23	2	Bidirectional	15	8	35		17	-	300	25	±30	125
ESD15VET2	SOT-23	2	Unidirectional	15	9	38	1	15.5	-	250	45	±30	150
ESD15VT2	SOT-23	2	Unidirectional	15	9	38	1	15.5	-	250	45	±30	150
ESD15VT2B	SOT-23	2	Bidirectional	15	9	30	0.5	16	-	250	30	±30	150
SM15H	SOT-23	2	Unidirectional	15	20	32		16.7	-	500	90	±30	125
SM22	SOT-23	2	Unidirectional	22	3	44		27	-	300	80	±15/±8	125
SM24B	SOT-23	2	Bidirectional	24	5	60		27	-	300	15	±30	125
ESD24VET2	SOT-23	2	Unidirectional	24	7	44	1	26	-	250	36	±30	150
ESD24VT2	SOT-23	2	Unidirectional	24	7	44	1	26	-	250	36	±30	150
ESD24VT2B	SOT-23	2	Bidirectional	24	7	44	0.5	26	-	250	20	±30	150
ESDHL24VT2B	SOT-23	2	Bidirectional	24	9	50	0.5	26	-	400	30	±30	125
ESDSBLC24VT2B	SOT-23	2	Bidirectional	24	10	32	0.2	25	-	320	9	±30	125
HSM24B	SOT-23	2	Bidirectional	24	13	34.5	0.2	25	-	450	15	±30	125
ESD27VT2B	SOT-23	2	Bidirectional	27	6	70	0.5	31	-	250	15	±30	150
SM32B	SOT-23	2	Bidirectional	32	4.5	67	0.2	35.6	-	300	25	±30	125
SM36	SOT-23	2	Unidirectional	36	3	80		40	48	240	30	±12	125
SM36B	SOT-23	2	Bidirectional	36	3	90		38	-	300	15	±30	125
ESD36VET2	SOT-23	2	Unidirectional	36	5	75	1	39	-	250	24	±30	150
ESD36VT2	SOT-23	2	Unidirectional	36	5	75	1	39	-	250	24	±30	150
ESD36VT2B	SOT-23	2	Bidirectional	36	5	90	0.5	38	-	250	13	±30	150
SRV33-4L	SOT23-6L	4	Unidirectional	3.3	22	14	0.5	3.5	5.3	300	5	±30	125
SRV33-4H	SOT23-6L	4	Unidirectional	3.3	50	12	0.5	4.5	7	600	2	±30	125
SRV05-4E	SOT23-6L	4	Unidirectional	5	4.5	12	0.1	7	9	54	0.4	±25	125
SRL05	SOT23-6L	4	Unidirectional	5	5	17		6.1	9.6	90	0.8	±20/±15	150
ESDA6V1-4L	SOT23-6L	4	Bidirectional	5	6	14	0.2	6	-	80	20	±30	125
SRV05-4D	SOT23-6L	4	Unidirectional	5	6	12	0.1	7	9	72	0.8	±30	125
SRV05-4A	SOT23-6L	4	Unidirectional	5	12	25		6	-	300	3	±15/±8	150
SRV05-4C	SOT23-6L	4	Unidirectional	5	17	18	0.5	6	8.5	300	0.4	±20/±15	125
SRV05-4L	SOT23-6L	4	Unidirectional	5.5	12	17.5		6	-	350	1.5	±15/±8	150

Protection Devices

ESD Protection

Part Number	Package	Protected Lines	Configuration	Reverse Standoff Voltage	Max. Peak Pulse Current	Max. Clamping Voltage	Max. Reverse Leakage	Breakdown Voltage		Peak Power Dissipation	Junction Capacitance	IEC61000-4-2 Air/Contact	Operating Junction Temperature
				V _{RWM} (V)	I _{pp} (A)	V _c (V)	I _a (uA)	V _{BR} (V) Min	V _{BR} (V) Max	P _{pk} (W)	C _j (pF)	V _{ESD} (kV)	T _j (°C)
ESDU5V0T5	SOT-523	2	Unidirectional	5	4	11	1	5.4	9.4	56	0.5	±20/±15	150
ESDSLCSV0T5	SOT-523	2	Unidirectional	5	5	25	0.5	6	-	125	0.8	±20KV	125
ESDULCSV0M5	SOT-563	4	Unidirectional	5	3	15	0.5	6	-	45	0.8	±12	125
ESDU5V0M5	SOT-563	4	Unidirectional	5	3.5	25	1	6	10	90	0.8	±25	150

Programmable TSS

Part Number	Package	Maximum Voltage (Gate to Line)	Gate Triggering Current	Peak Pulse Current	Holding Current	Operating Junction Temperature
		V _{MGL} (V)	I _{tr} (mA)	I _{pp} (A)	I _h (mA)	T _j (°C)
P61089B	SOP-8	-167	5	50	150	150

Protection Devices

TVS

Part Number	Package	Uni/Bi	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Peak Pulse Current	Max. Clamping Voltage	Breakdown Voltage		Reverse Leakage	Test Current	Operating Junction Temperature
			P _{PK} (W)	V _{RWM} (V)	I _{PP} (A)	V _C (V)	V _{BR} (V) Min	V _{BR} (V) Max	I _R (uA)	I _T (mA)	T _J (°C)
SMHE5.0A~SMHE90A	SOD-323HE-B	Uni	150	5.0~90	1.0~16.3	9.2~146	6.4~100	7.07~1	1.0~400	1~10	150
SMF5.0A~SMF200A	SOD-123FL	Uni	200	5.0~200	0.6~21.7	9.2~324	6.4~224	7.0~247	1~400	1~10	175
SMF5.0CA~SMF200CA	SOD-123FL	Bi	200	5.0~200	0.6~21.7	9.2~324	6.4~224	7.0~247	1~400	1~10	175
SMH5.0A~SMH100A	SOD-123HL	Uni	200	5.0~100	1.23~21.74	9.2~162	6.4~111	7.07~123	1~400	1~10	150
P4KE6.8A~P4KE550A	DO-41	Uni	400	5.8~495	0.52~39	10.5~760	6.45~522.5	7.14~577.5	1~1000	1~10	175
P4KE6.8CA~P4KE550CA	DO-41	Bi	400	5.8~495	0.52~39	10.5~760	6.45~522.5	7.14~577.5	1~1000	1~10	175
SM4F5.0A~SM4F100A	SOD-123FL	Uni	400	5.0~100	2.46~43.5	9.2~162	6.4~111	7.0~123	1~400	1~10	150
SM4F5.0CA~SM4F45CA	SOD-123FL	Bi	400	5.0~45	5.5~43.5	9.2~72.7	6.4~50	7.0~55.3	1~400	1~10	150
SM4H5.0A~SM4H100A	SOD-123FL	Uni	400	5.0~100	2.46~43.38	9.2~162	6.4~111	7.07~123	1~800	1~10	150
SMAF5.0A~SMAF300A	DO-221AC	Uni	400	5~300	0.8~43.5	9.2~486	6.4~335	7~371	1~800	1~10	175
SMAF5.0CA~SMAF300CA	DO-221AC	Bi	400	5~300	0.8~43.5	9.2~486	6.4~335	7~371	1~800	1~10	175
SMAJ5.0A~SMAJ440A	SMA	Uni	400	5~440	0.6~43.5	9.2~713	6.4~492	7~543	1~800	1~10	175
SMAJ5.0CA~SMAJ440CA	SMA	Bi	400	5~440	0.6~43.5	9.2~713	6.4~492	7~543	1~800	1~10	175
SMAJP4KE220AL~SMAJP4KE350AL	SMA	Uni	400	185~300	0.9~1.3	328~482	209~332	231~368	1	1	175
SMAJP4KE6.8A~SMAJP4KE550A	SMA	Uni	400	5.8~495	0.5~39	10.5~760	6.4~522.5	7.14~577.5	1~1000	1~10	175
SMAJP4KE6.8CA~SMAJP4KE550CA	SMA	Bi	400	5.8~495	0.5~39	10.5~760	6.45~522.5	7.14~577.5	1~1000	1~10	175
SMAJS24CA	SMA	Bi	400	24	10.3	38.9	26.7	29.5	1	1	150
P6KE6.8A~P6KE600A	DO-15	Uni	600	5.8~512	0.75~57	10.5~828	6.45~570	7.14~630	1~1000	1~10	175
P6KE6.8CA~P6KE600CA	DO-15	Bi	600	5.8~512	0.75~57	10.5~828	6.45~570	7.14~630	1~1000	1~10	175
SMA6J5.0AFL~SMA6J130AFL	DO-221AC	Uni	600	5~130	2.9~65.2	9.2~209	6.4~144	7~159	1~800	1~10	150
SMA6J11CAFL~SMA6J85CAFL	DO-221AC	Bi	600	11~85	4.4~33	18.2~137	122~944	13.5~104	1	1	150
SMA6J5.0A~SMA6J58A	SMA	Uni	600	5~58	6.41~65.2	9.2~93.6	6.4~64.4	7~71.2	1~800	1~10	175
SMA6J5.0CA~SMA6J58CA	SMA	Bi	600	5~58	6.41~65.2	9.2~93.6	6.4~64.4	7~71.2	1~800	1~10	175
SMBF5.0A~SMBF220A	SMBF	Uni	600	5.0~220	1.69~65.22	9.2~356	6.4~246	7.07~272	1~800	1~10	150
SMBF5.0CA~SMBF220CA	SMBF	Bi	600	5.0~220	1.69~65.22	9.2~356	6.4~246	7.07~272	1~800	1~10	150
SMBJ220AL~SMBJ440AL	SMB	Uni	600	220~440	0.9~1.7	356~648	246~447	272~494	1	1	175
SMBJ220CAL~SMBJ440CAL	SMB	Bi	600	220~440	0.9~1.7	356~713	246~492	272~543	1	1	175
SMBJ5.0A~SMBJ440A	SMB	Uni	600	5~440	0.9~65.2	9.2~713	6.4~492	7~543	1~800	1~10	175
SMBJ5.0CA~SMBJ440CA	SMB	Bi	600	5~440	0.9~65.2	9.2~713	6.4~492	7~543	1~800	1~10	175
SMBJP6KE250AL~SMBJP6KE400AL	SMB	Uni	600	214~342	1.1~1.9	344~548	237~380	263~420	1	1	150
SMBJP6KE6.8A~SMBJP6KE550A	SMB	Uni	600	5.8~468	0.8~58.1	10.5~760	6.45~522.5	7.14~577.5	1~1000	1~10	150
SMBJP6KE6.8CA~SMBJP6KE550CA	SMB	Bi	600	5.8~468	0.8~58.1	10.5~760	6.45~522.5	7.14~577.5	1~1000	1~10	150
SMB10J5.0A~SMB10J120A	SMB	Uni	1000	5.0~120	5.18~108.7	9.2~193	6.4~133	7~147	1~800	1~10	150
SMB10J5.0CA~SMB10J120CA	SMB	Bi	1000	5.0~120	5.18~108.7	9.2~193	6.4~133	7~147	1~800	1~10	150
SMBJ1.0KE6.8A~SMBJ1.0KE91A	SMB	Uni	1000	5.8~77.8	8~95.2	10.5~125	6.46~86.45	7.14~95.55	1~900	1~10	150
SMBJ1.0KE6.8CA~SMBJ1.0KE91CA	SMB	Bi	1000	5.8~77.8	8~95.2	10.5~125	6.46~86.45	7.14~95.55	1~900	1~10	150
1.5KE6.8A~1.5KE550A	DO-201AE	Uni	1500	5.8~467	2~144.8	10.5~760	6.45~522.5	7.14~577.5	5~1000	1~10	175
1.5KE6.8CA~1.5KE550CA	DO-201AE	Bi	1500	5.8~467	2~144.8	10.5~760	6.45~522.5	7.14~577.5	5~1000	1~10	175
LCE6.5A~LCE28A	DO-201AE	Uni	1500	6.5~28	33~100	11.2~45.5	7.22~31.3	7.98~34.4	5~1000	1~10	175
SMB15J15A~SMB15J58A	SMB	Uni	1500	15~58	16.03~61.48	24.4~93.6	16.7~64.4	18.5~71.2	5	1	150
SMB15J15CA~SMB15J58CA	SMB	Bi	1500	15~58	16.03~61.48	24.4~93.6	16.7~64.4	18.5~71.2	5	1	150
SMCJ1.5KE6.8A~SMCJ1.5KE550A	SMC	Uni	1500	5.8~495	2~144.8	10.5~760	6.45~522.5	7.14~577.5	5~1000	1~10	175
SMCJ1.5KE6.8CA~SMCJ1.5KE550CA	SMC	Bi	1500	5.8~495	2~144.8	10.5~760	6.45~522.5	7.14~577.5	5~1000	1~10	175
SMCJ220AL~SMCJ350AL	SMC	Uni	1500	220~350	2.6~4.2	356~567	246~391	272~432	1	1	175

Protection Devices

TVS

Part Number	Package	Uni/Bi	Peak Pulse Power Dissipation	Reverse Standoff Voltage	Peak Pulse Current	Max. Clamping Voltage	Breakdown Voltage		Reverse Leakage	Test Current	Operating Junction Temperature
			P _{PK} (W)	V _{RWM} (V)	I _{PP} (A)	V _C (V)	V _{BR} (V) Min	V _{BR} (V) Max	I _R (uA)	I _T (mA)	T _J (°C)
SMCJ220CAL~SMCJ250CAL	SMC	Bi	1500	220~250	3.7~4.2	356~405	246~279	272~309	1	1	175
SMCJ5.0A~SMCJ440A	SMC	Uni	1500	5.0~440	2.1~163	9.2~713	6.4~492	7~543	1~800	1~10	175
SMCJ5.0CA~SMCJ440CA	SMC	Bi	1500	5.0~440	2.1~163	9.2~713	6.4~492	7~543	1~800	1~10	175
SMB20J20A~SMB20J58A	SMB	Uni	2000	20~58	21.37~61.73	32.4~93.6	22.2~64.4	24.5~71.2	1	1	150
SMB20J20CA~SMB20J58CA	SMB	Bi	2000	20~58	21.37~61.73	32.4~93.6	22.2~64.4	24.5~71.2	1	1	150
SMB20J558CA	SMB	Bi	2000	58	21.37	93.6	64.4	71.2	5	1	150
3KP5.0A~3KP220A	R-6	Uni	3000	5~220	8.1~326.1	9.2~371.1	6.4~244	7~270	10~5000	5~50	175
3KP5.0CA~3KP220CA	R-6	Bi	3000	5~220	8.1~326.1	9.2~371.1	6.4~244	7~270	10~5000	5~50	175
SMLJ5.0A~SMLJ440A	SMC	Uni	3000	5~440	4.21~326	9.2~713	6.4~492	7~543	2~1000	1~10	175
SMLJ5.0CA~SMLJ440CA	SMC	Bi	3000	5~440	4.21~326	9.2~713	6.4~492	7~543	2~1000	1~10	175
5.0SMLJ11A~5.0SMLJ400A	SMC	Uni	5000	11~400	7.7~275	18.2~648	12.2~447	13.5~494	5~800	1~10	175
5.0SMLJ11CA~5.0SMLJ400CA	SMC	Bi	5000	11~400	7.7~275	18.2~648	12.2~447	13.5~494	5~800	1~10	175
5.0SMLJ5.0AL~5.0SMLJ85AL	SMC	Uni	5000	5~85	36.5~543.6	9.2~137	6.4~94.4	7~104	2~1000	1~10	175
5.0SMLJ5.0CAL~5.0SMLJ85CAL	SMC	Bi	5000	5~85	36.5~543.6	9.2~137	6.4~94.4	7~104	2~1000	1~10	175
5KP22AL~5KP188AL	R-6	Uni	5000	22~188	15.2~141	35.5~328	24.4~209	26.9~231	2	5	150
5KP22CAL~5KP188CAL	R-6	Bi	5000	22~188	15.2~141	35.5~328	24.4~209	26.9~231	2	5	150
5KP5.0A~5KP440A	R-6	Uni	5000	5~440	7~543	9.2~713	6.4~492	7~543	10~5000	5~50	175
5KP5.0CA~5KP440CA	R-6	Bi	5000	5~440	7~543	9.2~713	6.4~492	7~543	10~5000	5~50	175
SLD10A~SLD60A	R-6	Uni	6000	10~60	61.5~350	17~96.8	11.8~68.4	13~75.6	10	5	175
SLD10CA~SLD60CA	R-6	Bi	6000	10~60	61.5~350	17~96.8	11.8~68.4	13~75.6	10	5	175
15KP17A~15KP280A	R-6	Uni	15000	17~280	33~512	29.3~452	18.9~311	20.79~342.4	10~5000	5~50	175
15KP17CA~15KP280CA	R-6	Bi	15000	17~280	33~512	29.3~452	18.9~311	20.79~342.4	10~5000	5~50	175
30KP28A~30KP288A	R-6	Uni	30000	28~288	64.5~606	50~469.9	31.28~321.7	34.24~352.2	10~5000	5~50	175
30KP28CA~30KP288CA	R-6	Bi	30000	28~288	64.5~606	50~469.9	31.28~321.7	34.24~352.2	10~5000	5~50	175
SMEJ58CA~SMEJ86CA	SME	Bi	-	58~86	10000	110~157	64~96	70~107	5	10	125
SMGJ80CA	SMG	Bi	-	80	2500	130	90	110	5	1	125
AK1-076C~AK15-076C	AK	Bi	-	30~430	1K~15K	90~625	32~440	-	20	10	150