

5-TVS/ZENER ARRAY FOR ESD AND LATCH-UP PROTECTION

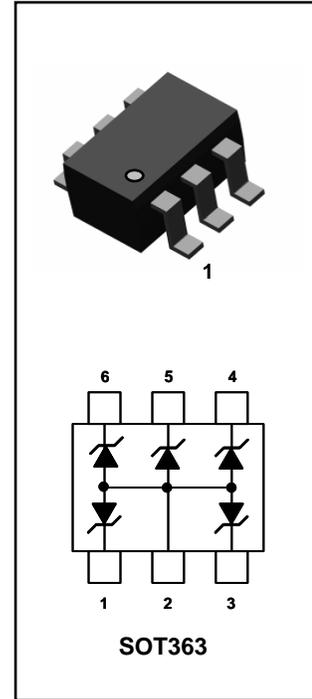
This 5-TVS/Zener Array has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in CMOS circuitry, operating at 3.3V and 5V, as well available for 12V, 15V, and 24V Systems. This TVS array offers an integrated solution to protect up to 5 data lines where the board space is a premium.

SPECIFICATION FEATURES

- 100W Power Dissipation (8/20 μ s Waveform)
- Low Leakage Current
- Very Low Clamping Voltage
- IEC61000-4-2 ESD 20kV air, 15kV Contact Compliance
- Operating voltage options for 3.3V, 5V, 12V, 15V, and 24V
- Industry Standard SOT363 (SC70-6L) Package

APPLICATIONS

- Personal Digital Assistant (PDA)
- SIM Card Port Protection (Mobile Phone)
- Portable Instrumentation
- Mobile Phones and Accessories
- Memory Card Port Protection



MAXIMUM RATINGS (Per Device)

Rating	Symbol	Value	Units
Peak Pulse Power (8/20 μ s Waveform)	P_{pp}	100	W
ESD Voltage (HBM)	V_{ESD}	25	kV
Operating Temperature Range	T_J	-55 to +150	$^{\circ}$ C
Storage Temperature Range	T_{stg}	-55 to + 150	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS (Per Device) $T_j = 25^{\circ}$ C

PJSMF03LC

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 10$ mA	4.7		5.6	V
Reverse Leakage Current	I_R	$V_R = 3.3$ V			250	μ A
Clamping Voltage (820 μ s)	V_c	$I_{pp} = 5$ A			7.5	V
Clamping Voltage (8/20 μ s)	V_c	$I_{pp} = 9$ A			9	V
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1$ MHz Between I/O pins and pin 2			160	pF
Off State Junction Capacitance	C_j	3.3 Vdc Bias $f = 1$ MHz Between I/O pins and pin 2			90	pF

ELECTRICAL CHARACTERISTICS (Per Device) $T_j = 25^\circ\text{C}$
PJSMF05LC

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	6.2			V
Reverse Leakage Current	I_R	$V_R = 5\text{V}$			0.5	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 5\text{A}$			10	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 9\text{A}$			11	V
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between I/O pins and pin 2			100	pF
Off State Junction Capacitance	C_j	5 Vdc Bias $f = 1\text{MHz}$ Between I/O pins and pin 2			45	pF

PJSMF12LC

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	13.3			V
Reverse Leakage Current	I_R	$V_R = 12\text{V}$			0.5	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 3\text{A}$			18	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 5\text{A}$			20	V
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between I/O pins and pin 2			50	pF

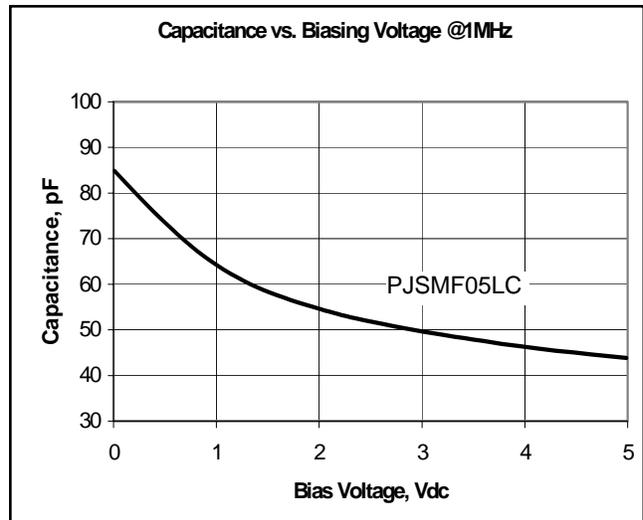
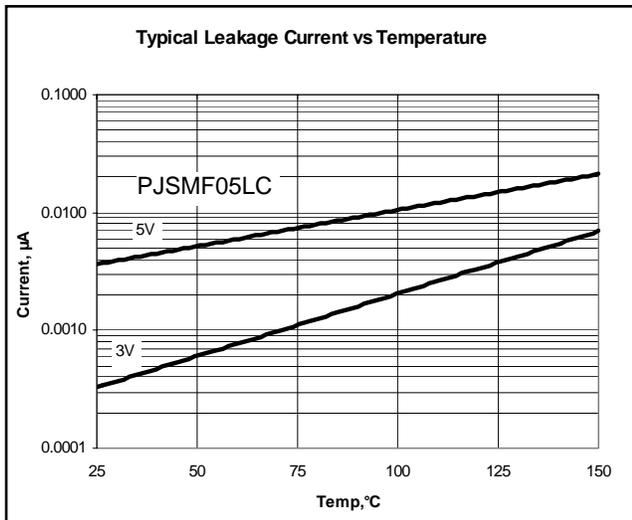
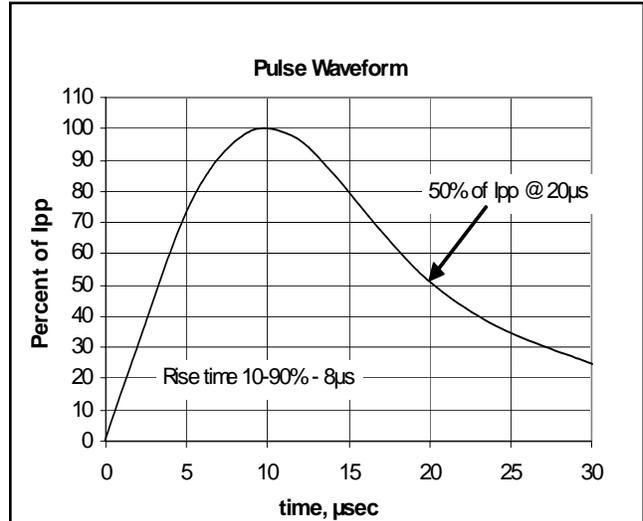
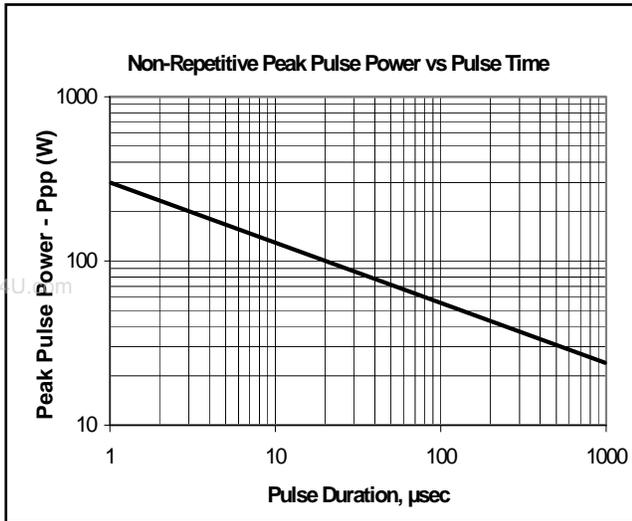
PJSMF15LC

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				15	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	16.6			V
Reverse Leakage Current	I_R	$V_R = 15\text{V}$			0.5	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 3\text{A}$			23	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 4\text{A}$			25	V
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between I/O pins and pin 2			40	pF

ELECTRICAL CHARACTERISTICS (Per Device) T_j = 25°C
PJSMF24LC

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V _{WRM}				24	V
Reverse Breakdown Voltage	V _{BR}	I _{BR} = 1mA	26.7			V
Reverse Leakage Current	I _R	V _R = 24V			0.5	μA
Clamping Voltage (8/20μs)	V _c	I _{pp} = 1A			35	V
Clamping Voltage (8/20μs)	V _c	I _{pp} = 2A			45	V
Off State Junction Capacitance	C _j	0 Vdc Bias f = 1MHz Between I/O pins and pin 2			30	pF

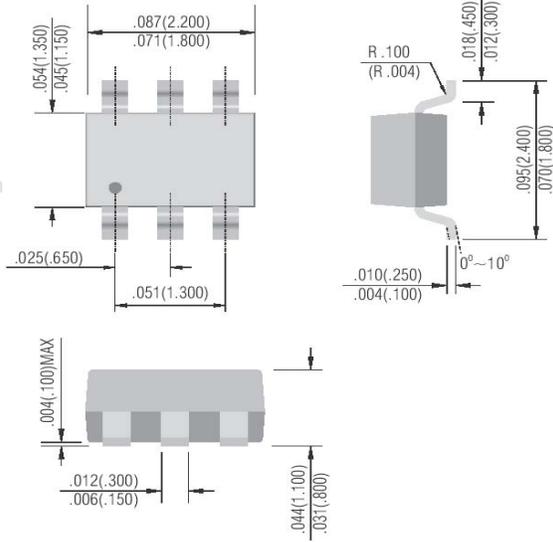
TYPICAL CHARACTERISTICS 25°C unless otherwise noted



LAYOUT DIMENSIONS AND SUGGESTED PAD LAYOUT

SOT-363

Unit: inch (mm)



SOT-363

Unit: inch (mm)

