

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

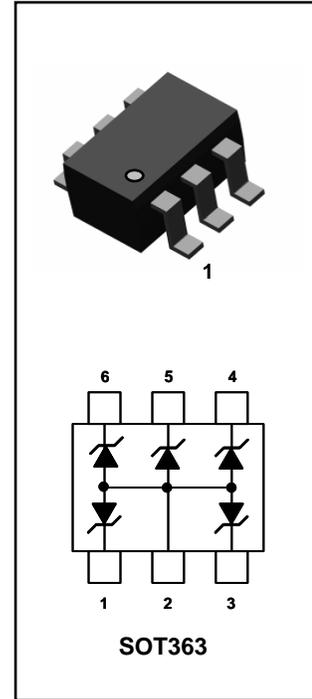
This 5-TVS/Zener Array has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in CMOS circuitry, operating at 3.3V and 5V, as well available for 12V, 15V, and 24V Systems. This TVS array offers an integrated solution to protect up to 5 data lines where the board space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

### SPECIFICATION FEATURES

- 100W Power Dissipation (8/20 $\mu$ 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 $\mu$ 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	$\mu$ A
Clamping Voltage (820 $\mu$ s)	$V_C$	$I_{pp} = 5$ A			7.5	V
Clamping Voltage (8/20 $\mu$ 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	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 5\text{A}$			10	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 9\text{A}$			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	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 3\text{A}$			18	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 5\text{A}$			20	V
Off State Junction Capacitance	$C_j$	0 Vdc Bias $f = 1\text{MHz}$ Between I/O pins and pin 2			50	pF

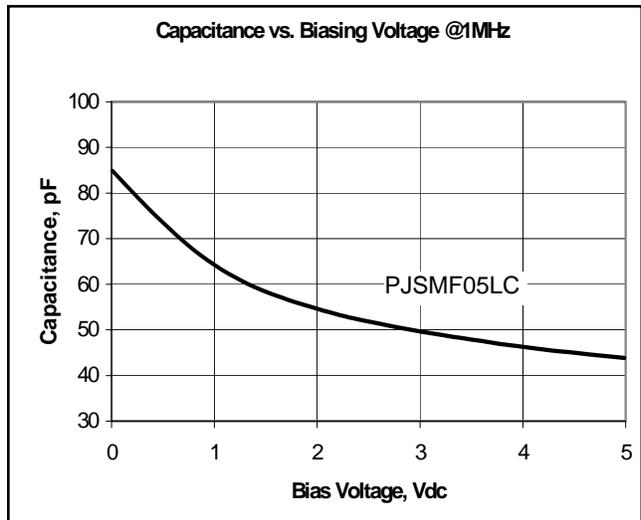
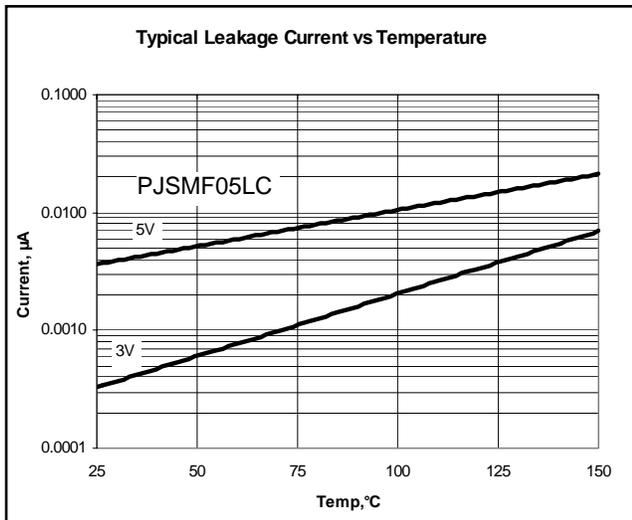
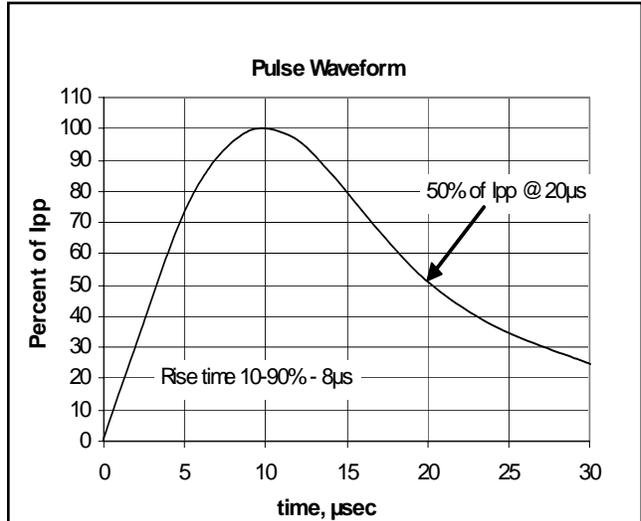
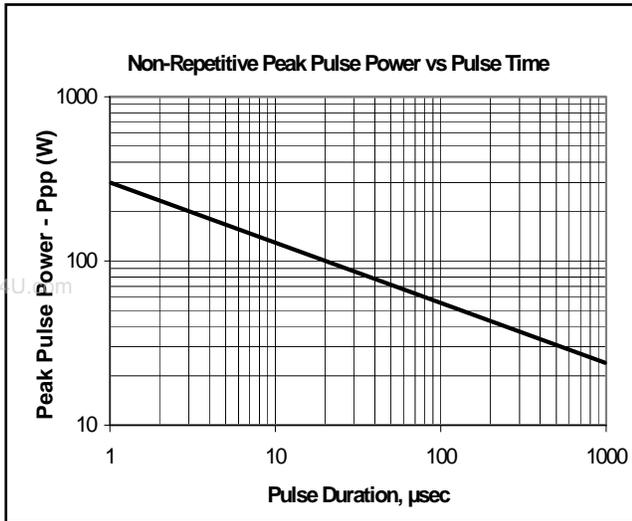
**PJSMF15LC**

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	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 3\text{A}$			23	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_C$	$I_{pp} = 4\text{A}$			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<sub>j</sub> = 25°C**
**PJSMF24LC**

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

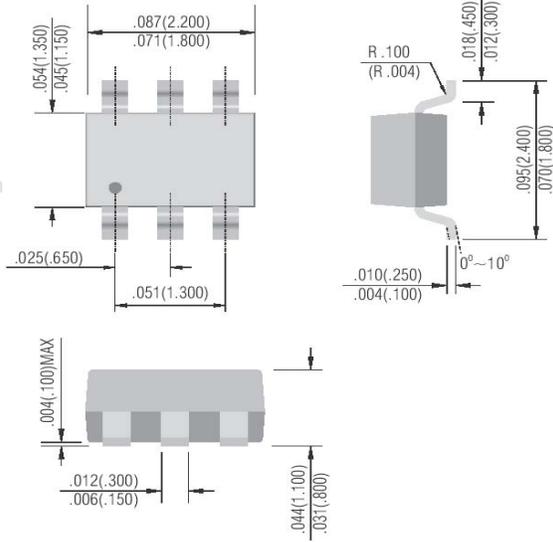
TYPICAL CHARACTERISTICS 25°C unless otherwise noted



**LAYOUT DIMENSIONS AND SUGGESTED PAD LAYOUT**

SOT-363

Unit: inch ( mm )



SOT-363

Unit: inch ( mm )

