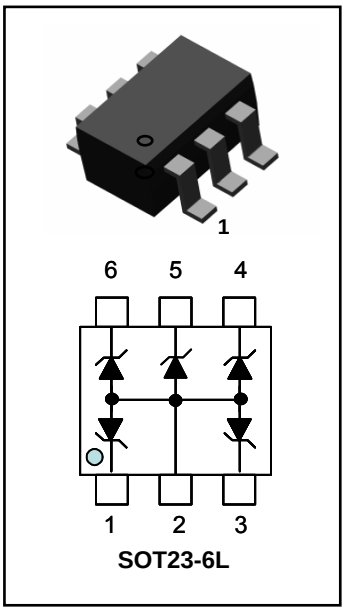
PJSMS05C SERIES

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

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



SPECIFICATION FEATURES

- **350W Power Dissipation (8/20μs Waveform)**
- **Low Leakage Current, Maximum of 5μA at rated voltage**
- **Very Low Clamping Voltage**
- **IEC61000-4-2 ESD 20kV air, 15kV Contact Compliance**
- **Industry Standard Surface Mount Package SOT23-6L**
- **100% Tin Matte Finish (RoHS Compliant)**
- **Lead free in comply with EU RoHS 2002/95/EC directives.**
- **Green molding compound as per IEC61249 Std. . (Halogen Free)**

APPLICATIONS

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

Device	Marking Code
PJSMS05C	MD5
PJSMS12C	MA2
PJSMS15C	MA5
PJSMS24C	MB4

MAXIMUM RATINGS (Per Device)

Rating	Symbol	Value	Units
Peak Pulse Power (8/20μs Waveform)	P_{pp}	350	W
ESD Voltage (HBM)	V_{ESD}	>25	kV
Operating Temperature Range	T_J	-50 to +125	°C
Storage Temperature Range	T_{stg}	-50 to +150	°C

ELECTRICAL CHARACTERISTICS (Per Device) Tj = 25℃

PJSMS05C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1mA	6			V
Reverse Leakage Current	I_R	V_R = 5V			5	μA
Clamping Voltage (8/20μs)	V_c	I_{pp} = 5A			9.5	V
Clamping Voltage (8/20μs)	V_c	I_{pp} = 24A			13	V
Off State Junction Capacitance	Cj	0 Vdc Bias f = 1MHz Between I/O pins and pin 2			200	pF
Off State Junction Capacitance	Cj	5 Vdc Bias f = 1MHz Between I/O pins and pin 2			110	pF

ELECTRICAL CHARACTERISTICS (Per Device) Tj = 25℃

PJSMS12C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} =1mA	13.3			V
Reverse Leakage Current	I_R	V_R = 12V			5	μA
Clamping Voltage (8/20μs)	V_c	I_{pp} = 5A			17	V
Clamping Voltage (8/20μs)	V_c	I_{pp} = 15A			21	V
Off State Junction Capacitance	Cj	0 Vdc Bias f = 1MHz Between I/O pins and pin 2			90	pF

PJSMS15C

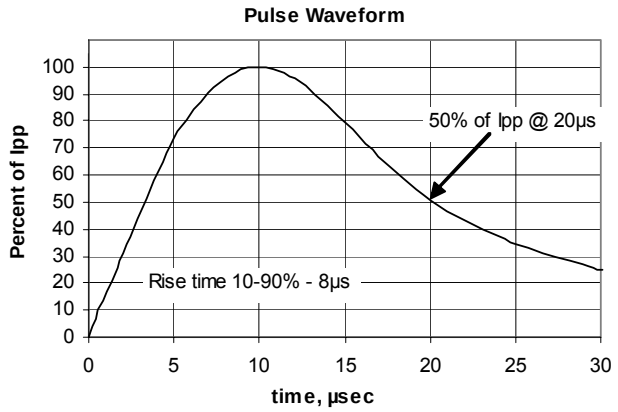
Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				15	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} =1mA	16.7			V
Reverse Leakage Current	I_R	V_R = 15V			5	μA
Clamping Voltage (8/20μs)	V_c	I_{pp} = 5A			22	V
Clamping Voltage (8/20μs)	V_c	I_{pp} = 12A			27	V
Off State Junction Capacitance	Cj	0 Vdc Bias f = 1MHz Between I/O pins and pin 2			70	pF

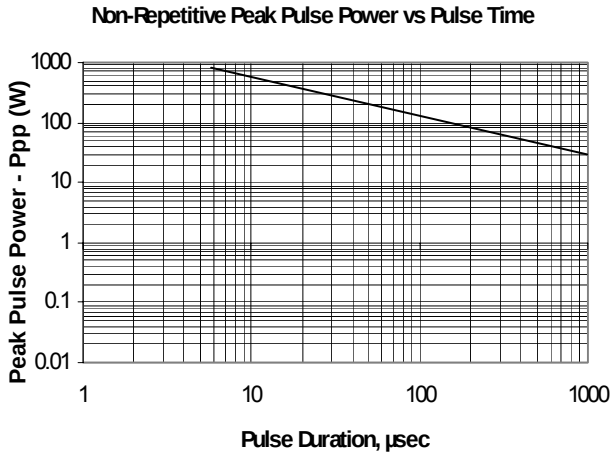
PJSMS24C

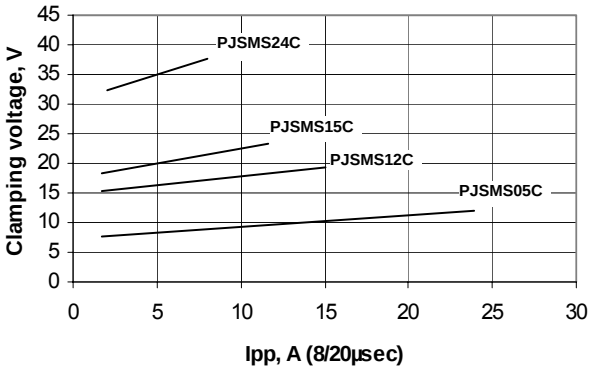
Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} =1mA	26.7			V
Reverse Leakage Current	I_R	V_R = 24V			5	μA
Clamping Voltage (8/20μs)	V_c	I_{pp} = 5A			35	V
Clamping Voltage (8/20μs)	V_c	I_{pp} = 8A			40	V
Off State Junction Capacitance	Cj	0 Vdc Bias f = 1MHz Between I/O pins and pin 2			50	pF

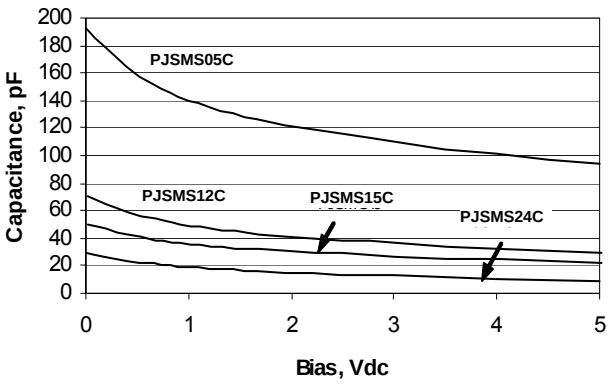
TYPICAL CHARACTERISTICS TJ = 25℃ unless otherwise noted

Surge Pulse Waveform Definition



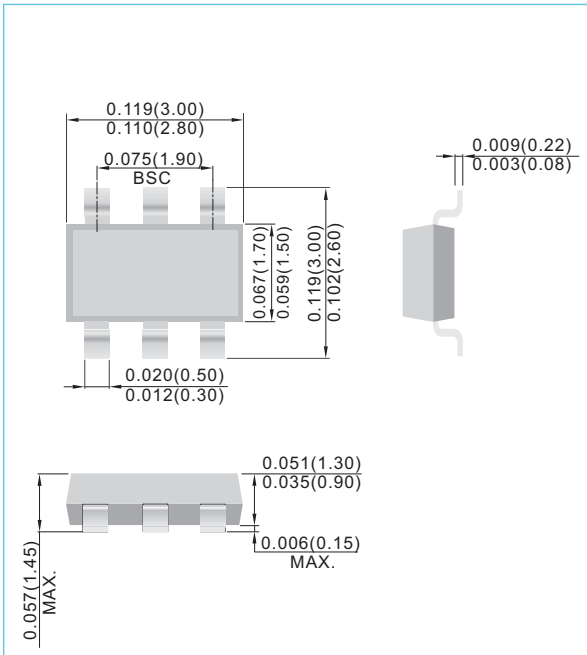




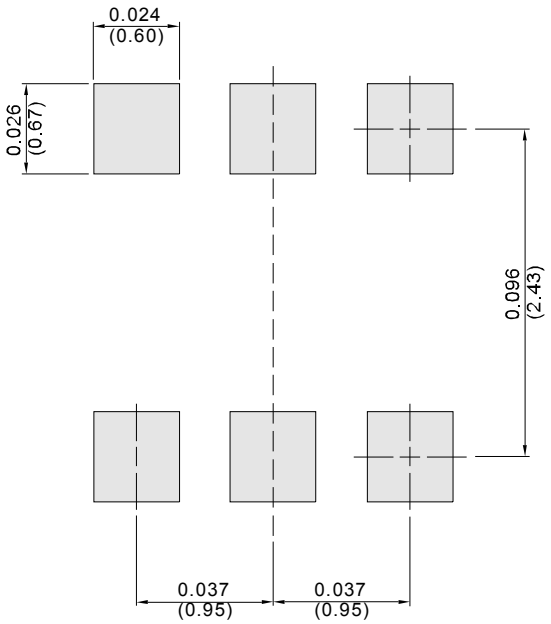


PACKAGE AND PAD LAYOUT DIMENSIONS

SOT23-6L Unit : inch(mm)



SOT23-6L Unit: inch (mm)



PJSMS05C SERIES

Part No_packing code_Version

PJSMS05C_R1_00001

PJSMS05C_R2_00001

For example :

RB500V-40_R2_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

PJSMS05C SERIES

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