

120W, LOW CLAMPING VOLTAGE TVS FOR PROTECTION IN PORTABLE ELECTRONICS

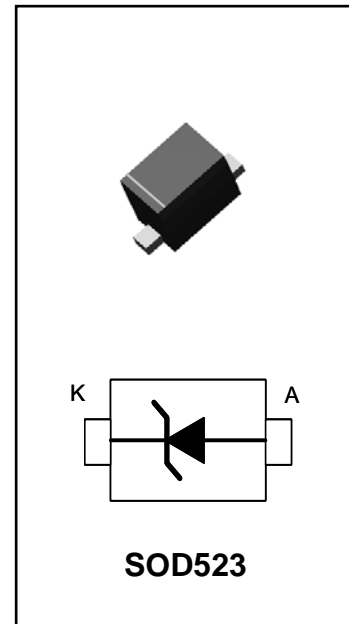
This tiny but powerful TVS/Zener Series has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in very sensitive CMOS circuitry operating at 3.3V, 5V, 12V, 15V 24V and 36V .These devices come in the new standard SOD523 package making them suitable for Portable/Computing Electronics, where the board space is a premium.

SPECIFICATION FEATURES

- 120W Power Dissipation (8/20 μ s Waveform)
- Very Low Leakage Current, Maximum of 5 μ A @ V_{RWM}
- IEC61000-4-2 ESD 15kV air, 8kV Contact Compliance
- SOD523 Package

APPLICATIONS

- MP3 Players
- Digital Cameras
- GPS
- Mobile Phones and Accessories
- Notebook PC's



MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power (8/20 μ s Waveform)	P_{pp}	120	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 $T_j = 25^{\circ}$ C

PJSD03TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				3.3	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1mA$	4.0			V
	Reverse Leakage Current	I_R	$V_R = 3.3V$			200	μ A
	Clamping Voltage (8/20 μ s)	V_c	$I_{pp} = 5 A$			6.5	V
	Off State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz			200	pF
	Off State Junction Capacitance	C_j	3.3 Vdc Bias f = 1MHz			100	pF

ELECTRICAL CHARACTERISTICS $T_j = 25^\circ\text{C}$

PJSD05TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				5	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	6			V
	Reverse Leakage Current	I_R	$V_R = 5\text{V}$			5	μA
	Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{ A}$			9	V
	Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$			110	pF
	Off State Junction Capacitance	C_j	5 Vdc Bias $f = 1\text{MHz}$			60	pF

PJSD12TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				12	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	13.3			V
	Reverse Leakage Current	I_R	$V_R = 12\text{V}$			5	μA
	Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{ A}$			17	V
	Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$			60	pF

PJSD15TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				15	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	16.6			V
	Reverse Leakage Current	I_R	$V_R = 15\text{V}$			5	μA
	Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{ A}$			22	V
	Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$			50	pF

PJSD24TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				24	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	26.7			V
	Reverse Leakage Current	I_R	$V_R = 24\text{V}$			5	μA
	Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 3\text{ A}$			32	V
	Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$			25	pF

PJSD36TS	Parameter	Symbol	Conditions	Min	Typical	Max	Units
	Reverse Stand-Off Voltage	V_{RWM}				36	V
	Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	40			V
	Reverse Leakage Current	I_R	$V_R = 36\text{V}$			5	μA
	Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 1\text{ A}$			55	V
	Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$			20	pF

PACKAGE DIMENSIONS AND BOND PAD LAYOUT

