NUP4201MR6T1G-30A

Low Capacitance TVS Diode Array

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Features

- Low operating voltage: 5V
- Ultra low capacitance: 1.5pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test

Air discharge: ±30kV

Contact discharge: ±30kV

-IEC61000-4-4 (EFT) 40A (5/50ns)

-IEC61000-4-5(Lightning):30A(8/20μs)

- These are Pb−Free Devices
- Response Time is Typically < 1 ns

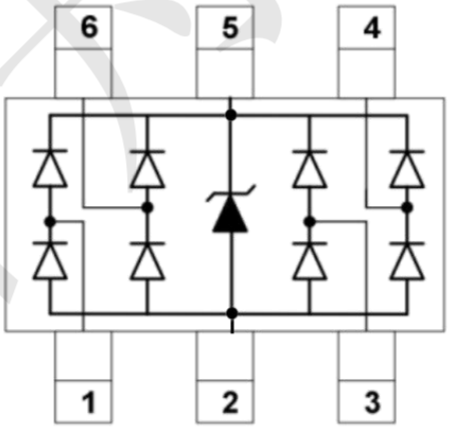
Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

Applications

- T1/E1 Line Cards
- T3/E3 and DS3 Interfaces
- Low Voltage Interfaces
- ISDN Interfaces

Dimensions and Pin Configuration



Circuit and Pin Schematic

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	600	W
Peak Pulse Current (8/20μs)Any I/O pin to ground	Ipp	30	A
Peak Pulse Current (8/20μs)VCC pin to ground	Ipp	60	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	--	5	V	Any I/O pin to ground
Breakdown Voltage	VBR	6	--	--	V	IT= 1mA,Any I/O pin to ground
Reverse Leakage Current	IR	--	1	--	uA	VRWM=5V,Any I/O pin to ground
Clamping Voltage	VC	--	--	11	V	Ipp=1A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	15	V	Ipp=4A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	18	--	V	Ipp=30A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	20	--	V	Ipp=60A(8x 20us pulse), VCC pin to ground
Junction Capacitance	Cvo-GND	--	2.5	--	pF	VR=0V,f=1MHz, Any I/O to GND
	$C_{I/O-I/O}$	--	1.5	--	pF	VR=0V,f=1MHz, between I/O pins

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

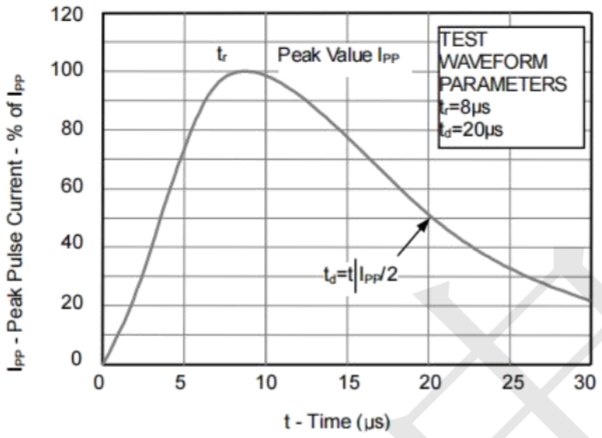


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

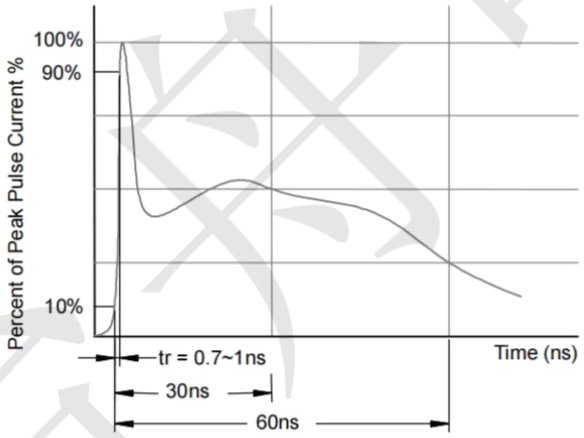
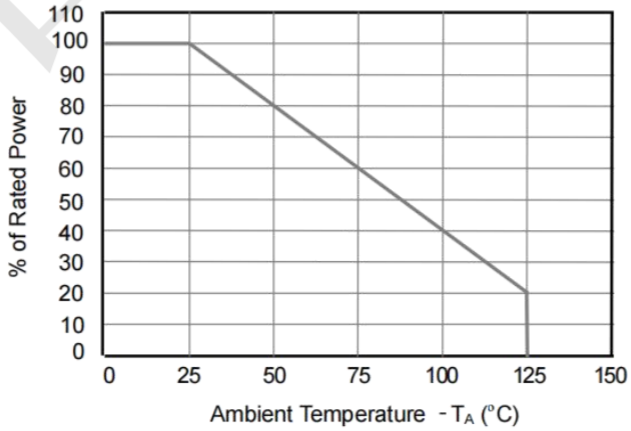
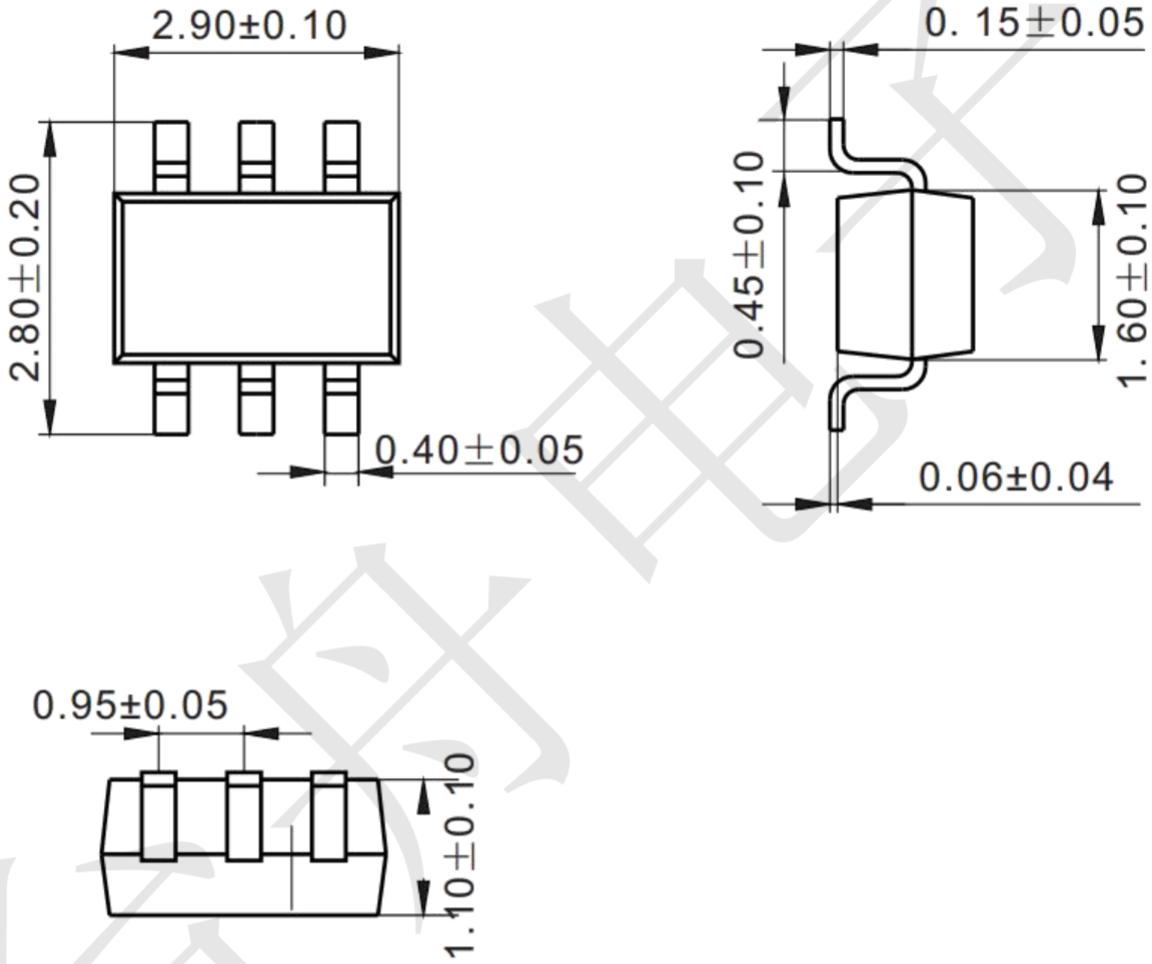


Fig3. Power Derating Curve

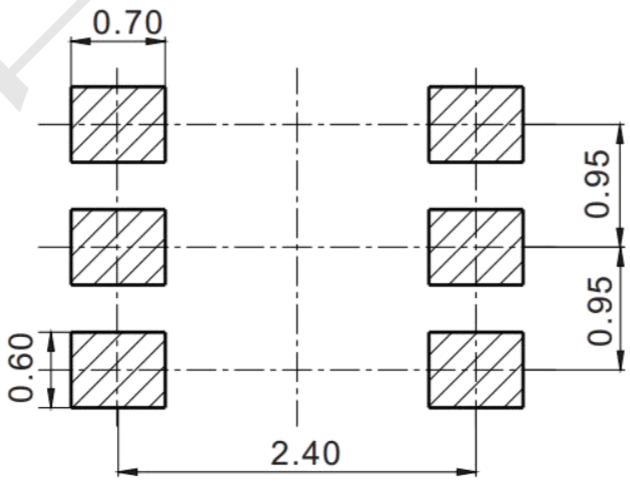


Package information (Unit: mm)

SOT23-6



Mounting Pad Layout (unit: mm)



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BV15C ESD5B5.0ST1G-P LTH7 TPADM809SAKSZ TPZXMP3A13FTA FDMS7670AS-TP SI3932DV FDC6301N-TP TPADM809LAKSZ TPB1A30-123 TPD1213A-02SM TPESD0402G08V TPS3809L30DBVR-TP DDTA143ZCA TPAPX809S-31SA TPESD5311N TPGC12C-1 TPZVN3320FTA BSN20W IRFR2405TRPBF-TP TPS7B6950DBVR-TP TPSPX3819M5-L-3-3 TPWSB5557Z DMP6350S TPDMG6602SVT TPESD0504S6-A QM3003J-TP SN7002W TPB05A40-323 TPFMMT493