Effective June 2017 Supersedes March 2013

TVSA Transient voltage ESD suppressor





1)_____02

Surface Mount Device

Equivalent Circuits

Product features

- Lead free, halogen free and RoHS compliant for global applications
- Single-line, bi-directional device for placement flexibility
- Silicon based chip
- Low capacitance to meet the needs for high speed single transient voltage protection
- Provides ESD protection with fast response time (<1ns) allowing equipment to pass IEC 61000-4-2 level 4 test
- Low profile designs for board space savings
- Low leakage current reduces power consumption
- Low clamping voltage
- Solid-state silicon-avalanche technology



- Computers and peripherals
- Digital cameras
- Mobile phones
- DVD/Media Players
- MP3/Multimedia players
- A-V Equipment
- External storage
- DSL Modems
- Set top boxes
- Docking systems

	<u>TVŞA</u>	04	<u>V18</u>	<u>C001</u>
Product Family				
Size				
Working DC Voltage —				
Capacitance in pF*				

* Part numbers use "R" to denote decimal point for decimal values of pico farads.

Packaging

- Size 0201: 15,000 pieces per reel EIA (EIAJ)
- Size 0402: 10,000 pieces per reel EIA (EIAJ)

Specifications								
Part		Stand-Off	Breakdown	Clamping Voltage	Capacitance	ESD	Leakage Current	
Number	Size	Voltage	Voltage	At I _{peak} = 1A	pF	Air/Contact (kV)	(typical)	
TVSA02V05C004	0201	5	10	17	4	15/8	< 10nA	
TVSA04V05C006	0402	5	10	17	6	15/8	< 10nA	

Stand-off Voltage - Maximum DC operating voltage the diode can maintain and not exceed 1mA leakage

current. Breakdown Voltage - Measured at any I/O pin to ground at 1mA DC current.

Clamping Voltage - Maximum peak voltage across the diode with 8/20ms waveform and 1A pulse current.

Capacitance - Device capacitance measured with zero volt bias at 1MHz.

ESD Air/Contact - Voltages tested to IEC 61000-4-2.





BUSSMANN

Dimensions - mm



Tape Packaging Specifications - mm



	0201 Carrier Dimensions								
Α	В	W	Е	F	P0	P1	P2	DO	Т
0.37 ±0.03	0.69 ±0.03	8.0 ±0.1	1.75 ±0.05	3.5 ±0.05	4.0 ±0.1	2.0 ±0.05	2.0 ±0.05	1.55 ±0.05	0.42 ±0.03
	0402 Carrier Dimensions								
0.58 ±0.03	1.2 ±0.03	8.0 ±0.1	1.75 ±0.05	3.5 ±0.05	4.0 ±0.1	2.0 ±0.05	2.0 ±0.05	1.55 ±0.05	0.60 ±0.03

Recommended Pad Layout - mm (in)



Size	а	b	С	d
0201	0.23	0.30	0.45	0.83
	(0.009)	(0.012)	(0.018)	(0.033)
0402	0.51	0.61	0.51	1.70
	(0.020)	(0.024)	(0.020)	(0.067)

Soldering Recommendations

- · Compatible with lead and lead-free solder reflow processes
- Peak reflow temperatures and durations:
- IR Reflow = 260°C max for 30 sec. max.
- Wave Solder = 260°C max. for 10 sec. max.
- Recommended IR Reflow Profile:



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