

Descriptions

The ESD24R300TA is a TVS (Transient Voltage Suppressor) array designed to protect high speed data interfaces.

It has been specifically designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress caused by ESD (Electrostatic Discharge).

The ESD24R300TA incorporates two pairs of ultra-low capacitance steering diodes plus a TVS diode.

The ESD24R300TA may be used to provide ESD protection up to $\pm 30\text{kV}$ (contact and air discharge) according to IEC61000-4-2, and withstand peak pulse current up to 8 A (8/20 μs) according to IEC61000-4-5.

The ESD24R300TA is available in SOT-23 package. Standard products are Pb-free and Halogen-free.

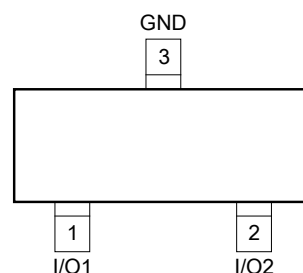
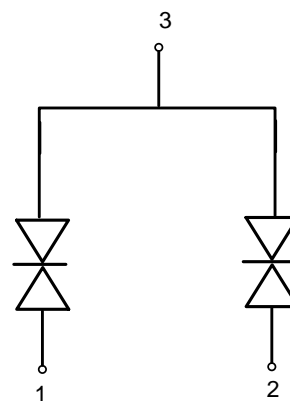
Features

- Stand-off voltage: 24V Max
- Transient protection for each line according to IEC61000-4-2 (ESD): $\pm 30\text{kV}$ (contact and air discharge)
IEC61000-4-4 (EFT): 40A (5/50ns)
IEC61000-4-5 (surge): 8A (8/20 μs)
- Ultra-low capacitance: $C_J = 30\text{ pF}$ typ.
- Ultra-low leakage current: $I_R < 1\text{ nA}$ typ.
- Solid-state silicon technology
- ISO 16 -1, Nonrepetitive EMI Surge Pulse 2, 9.5 A (1 x 50 μs)
- ISO 7637-3, Repetitive Electrical Fast Transient (EFT)

Applications

- Industrial Control Networks
Smart Distribution Systems
Device Net
- Automotive Networks
Low and High-Speed CAN
Fault Tolerant CAN

SOT-23 (Top View)



Order information

Device	Package	Marking	Shipping
ESD24R300TA	SOT-23	27Y	3000/Tape&Reel

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	350	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	8	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Operation junction temperature	T_J	-55~150	$^{\circ}C$
Lead temperature	T_L	260	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

Electrical characteristics ($T_A=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				24.0	V
Reverse leakage current	I_R	$V_{RWM} = 24V$			1.0	μA
Reveres breakdown voltage	V_{BR12}	$I_T=1mA$	26.5		32.5	V
Clamping voltage	V_C	$I_{pp}=5.0A$ $t_p=8/20\mu s$			40	V
		$I_{pp}=8.0A$ $t_p=8/20\mu s$			44	V
Junction capacitance	C_J	$V_R = 0V$, $f = 1MHz$		30		pF