

Features

- ESD / transient protection of high-speed data lines exceeding IEC61000-4-2 (ESD): ± 20 kV (air / contact)
IEC61000-4-4 (EFT): 2.5 kV / 50 A (5/50 ns)
IEC61000-4-5 (surge): 3 A (8/20 μ s)
- Reverse working voltage: 5.3 V max.
- Very low reverse current: < 10 nA typ.
- Extremely low capacitance: 0.4 pF typ.

Mechanical Characteristics

- Extremely small form factor down to 0.62 x 0.32 x 0.31 mm³(0201)
- Lead Finish: Matta Tin
- Pb-free (RoHS compliant) package



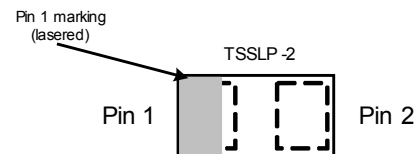
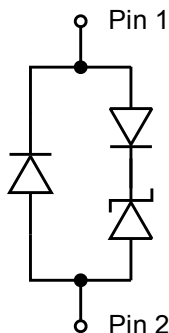
Applications

- USB 2.0, 10/100/1000 Ethernet, Firewire, DVI, HDMI, S-ATA
- Mobile communication
- Consumer products (STB, MP3, DVD, DSC...)
- LCD displays, camera
- Notebooks and desktop computers, peripherals

Ordering Information

Part Number	Qty per Reel	Reel Size
ESD5V3U04-0201	15000	7"

Dimensions and Pin Configuration



- Marking:L

PROTECTION PRODUCTS

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
ESD (air / contact) discharge ¹⁾	V_{ESD}	20	kV
Peak pulse current ($t_p = 8 / 20 \mu s$) ²⁾	I_{pp}	3	A
Operating temperature range	T_{op}	-55...125	°C
Storage temperature	T_{stg}	-65...150	

Electrical Characteristics

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics					
Reverse working voltage	V_{RWM}	-	-	5.3	V
Breakdown voltage $I_{(BR)} = 1 \text{ mA}$, from pin 1 to 2	$V_{(BR)}$	6	-	-	
Reverse current $V_R = 5.3 \text{ V}$, from pin 1 to 2	I_R	-	< 10	100	nA
Clamping voltage $I_{PP} = 1 \text{ A}$, $t_p = 8/20 \mu s^2$, from pin 1 to 2 $I_{PP} = 3 \text{ A}$, $t_p = 8/20 \mu s^2$, from pin 1 to 2	V_{CL}	-	10 12	13 15	V
Forward clamping voltage $I_{PP} = 1 \text{ A}$, $t_p = 8/20 \mu s^2$, from pin 2 to 1 $I_{PP} = 3 \text{ A}$, $t_p = 8/20 \mu s^2$, from pin 2 to 1	V_{FC}	-	2 4	4 6	
Line capacitance ³⁾ $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_T	-	0.4	0.6	pF
Series inductance ESD5V3U1U-02LS ESD5V3U1U-02LRH	L_S	-	0.2 0.4	-	nH

¹⁾ V_{ESD} according to IEC61000-4-2

²⁾ I_{pp} according to IEC61000-4-5

³⁾Total capacitance line to ground

PROTECTION PRODUCTS
 Typical characteristics

Fig1. 8/20µs Pulse Waveform

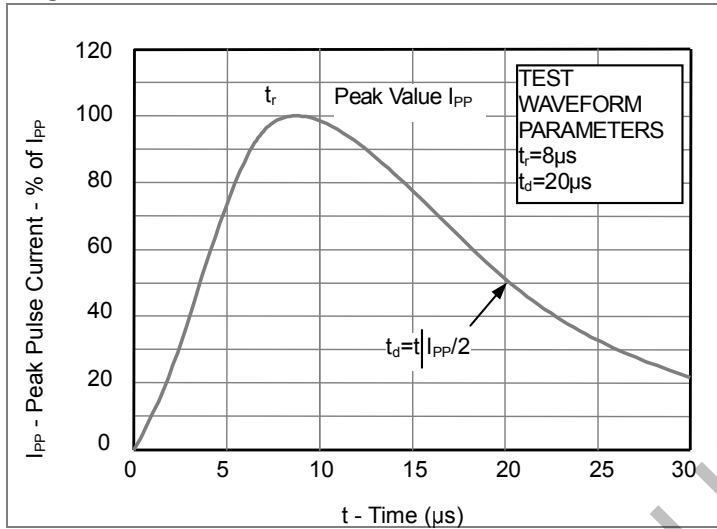


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

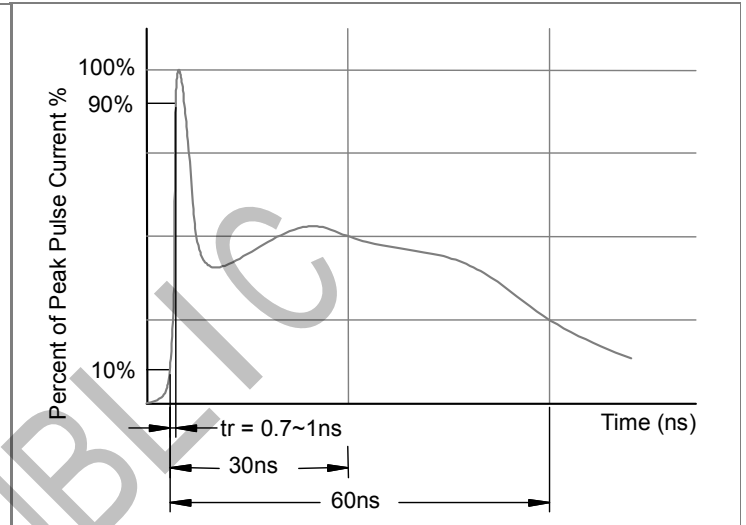
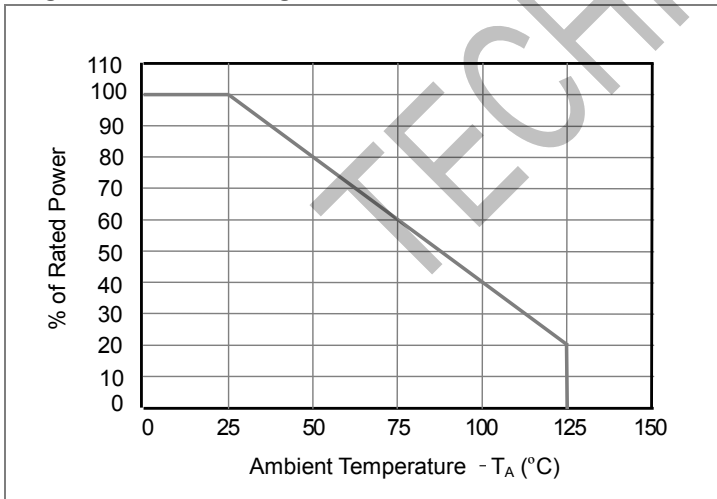
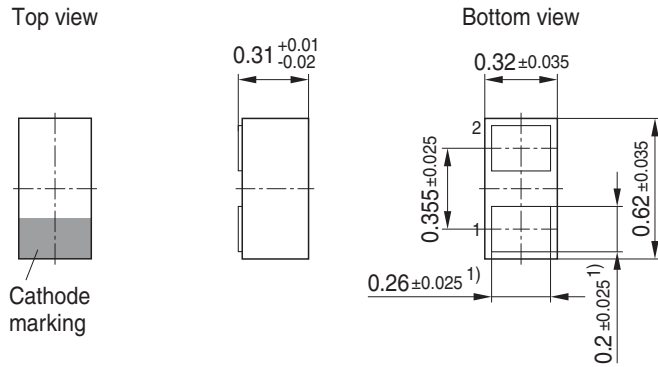


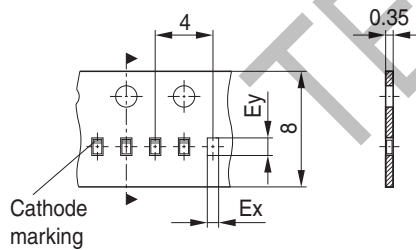
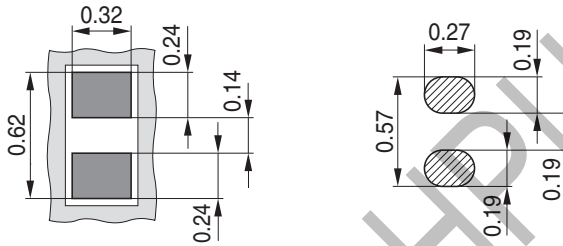
Fig3. Power Derating Curve



Outline Drawing -0201



Land Pattern - 0201



Tape type	Ex	Ey
Punched Tape	0.43	0.73
Embossed Tape	0.37	0.67

Deliveries can be both tape types (no selection possible).
Specification allows identical processing (pick & place) by users.