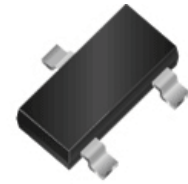


Transient Voltage Suppressors for ESD Protection

Description

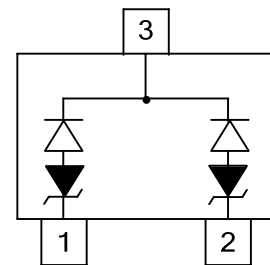
YENJI's PJDLCxx series are ultra low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by electrostatic discharge (ESD), cable discharge events(CDE) and electrical fast transients(EFT).The series has a typical capacitance of only 1pF. This means it can be used on circuits operating in excess of 3GHz without signal attenuation.



SOT23

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOT-23 surface mount package
- Protects two high speed data line
- Peak power dissipation of 400W under 8/20μs waveform
- Working voltage: 5V, 12V, 15V and 24V
- Low leakage current
- Ultra low capacitance and clamping voltage
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020



Pin Configuration

Applications

- HDMI interface protection
- Mobile display digital interface
- RF/Antenna circuits
- USB 2.0 & Firewire ports
- GaAs photodetector protection
- HBT power Amp protection
- Infiniband transceiver protection

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power (tp=8/20μs waveform)	P _{PP}	400	W
ESD voltage (Contact discharge)	V _{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T _{STG} ,T _J	-55~+150	°C

Transient Voltage Suppressors for ESD Protection
Electrical Characteristics ($T_J=25^{\circ}\text{C}$)
PJDLC05 Marking T2S

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
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	$V_R=5\text{V}$ each I/O pin			5	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=1\text{A}$			12	V
Off state junction capacitance	C_J	0Vdc, f=1MHz Between I/O pins and GND			1	pF

PJDLC12 Marking DJ2

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
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	$V_R=12\text{V}$ each I/O pin			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=1\text{A}$			25	V
Off state junction capacitance	C_J	0Vdc, f=1MHz Between I/O pins and GND			1	pF

PJDLC15 Marking DJ5

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				15	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1\text{mA}$	16.7			V
Reverse leakage current	I_R	$V_R=15\text{V}$ each I/O pin			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=1\text{A}$			30	V
Off state junction capacitance	C_J	0Vdc, f=1MHz Between I/O pins and GND			1	pF

PJDLC24 Marking DJ4

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				24	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1mA$	26.7			V
Reverse leakage current	I_R	$V_R=24V$ each I/O pin			1	μA
Clamping voltage ($t_p=8/20\mu s$)	V_C	$I_{PP}=1A$			48	V
Off state junction capacitance	C_J	0Vdc, f=1MHz Between I/O pins and GND			1	pF

Typical Characteristics Curves

Figure 1. Power Derating Curve

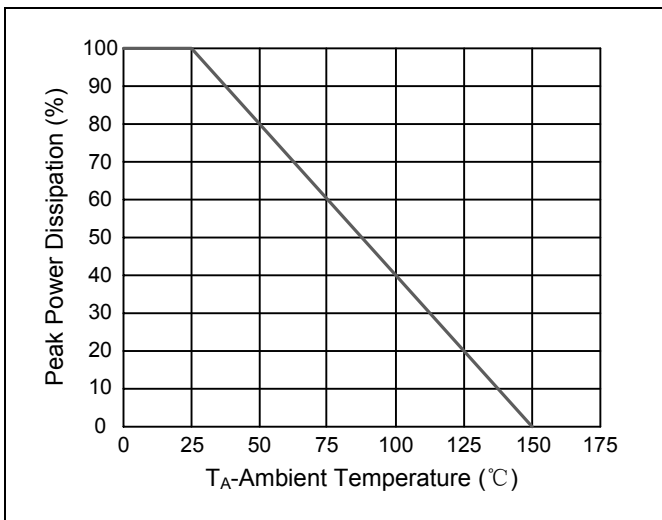


Figure 2. Pulse Waveforms

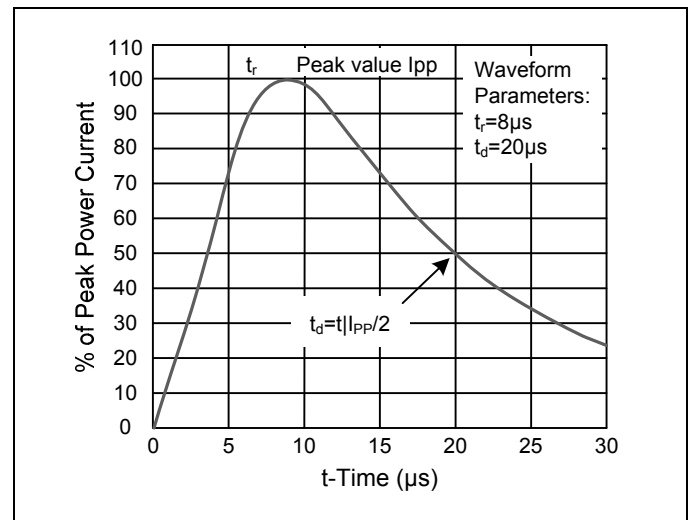


Figure 3. Non-Repetitive Peak Pulse vs. Pulse Time

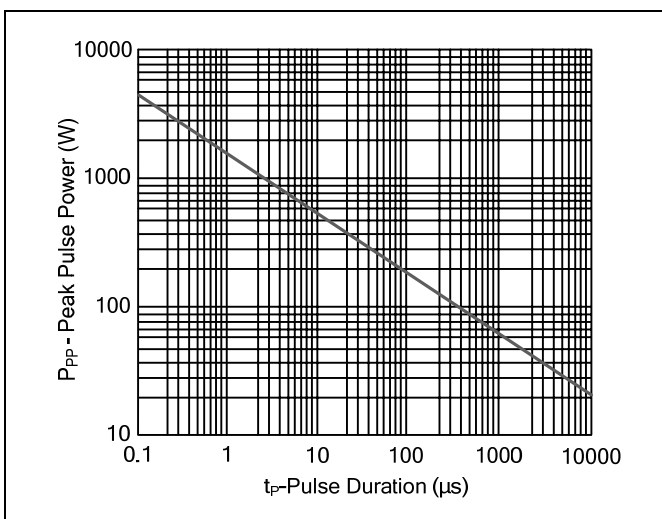
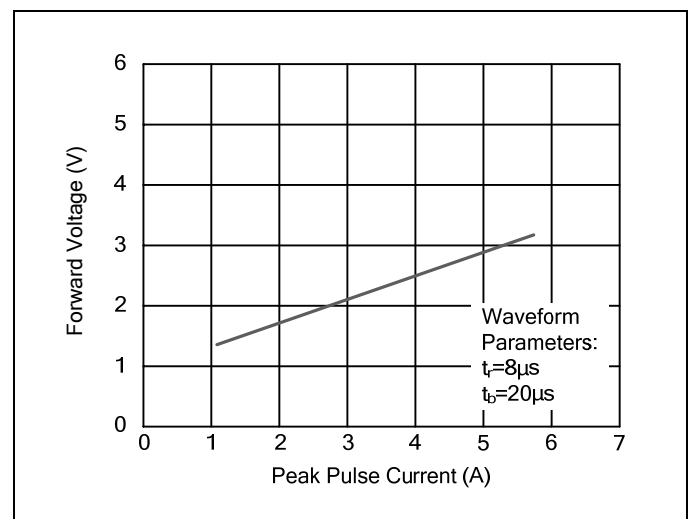
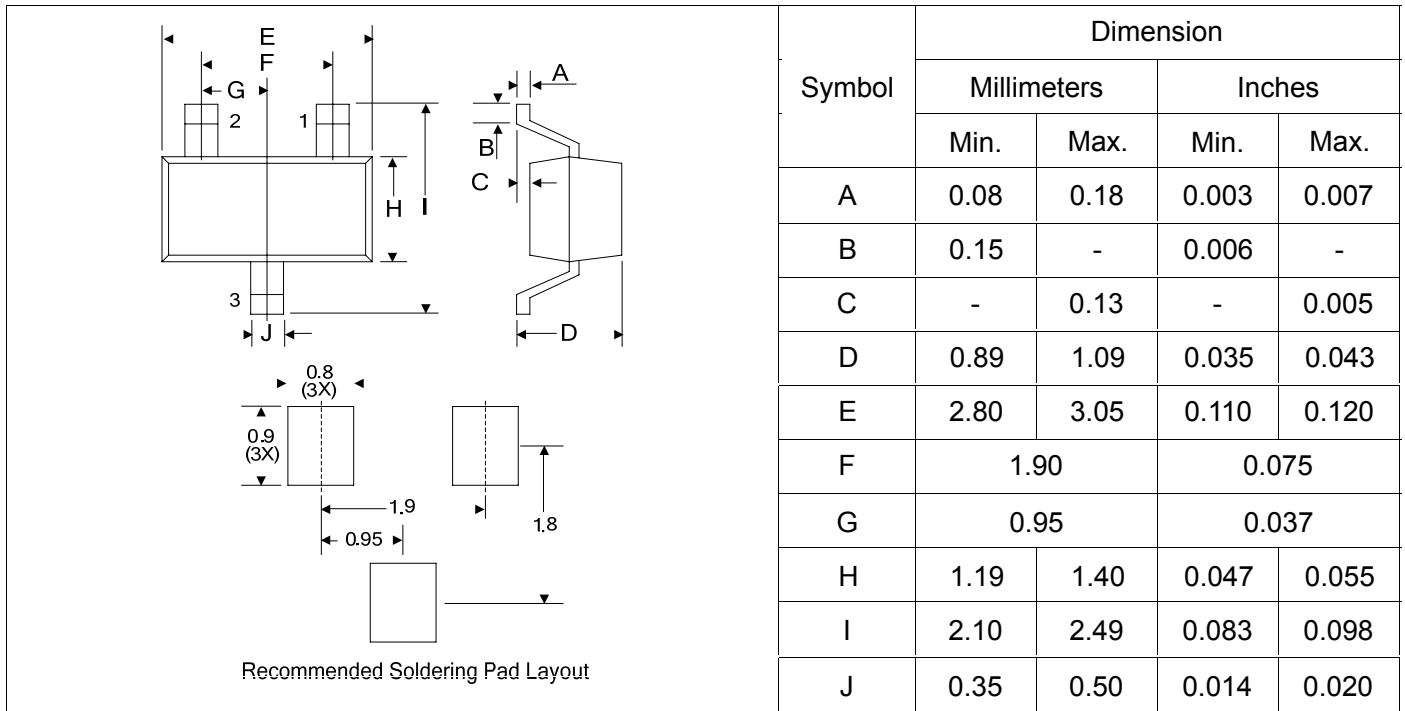


Figure 4. Forward Voltage vs. Forward Current



Transient Voltage Suppressors for ESD Protection
Dimensions (SOT-23)

Packaging
