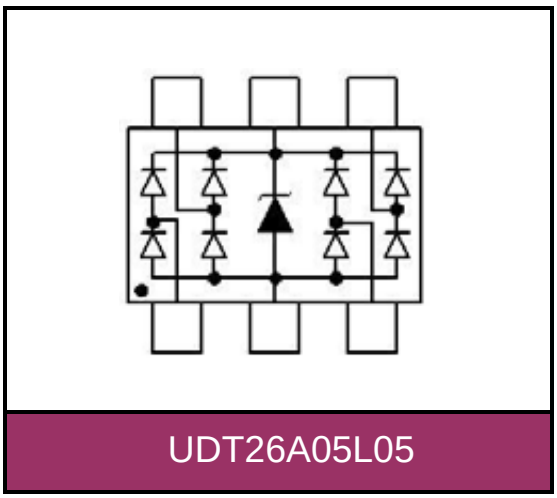
RailClamp -- Low Capacitance TVS Diode Array

HBM : ±8kV
Air Mode : ±15kV

Brightking's UDT26A05L05 are low capacitance TVS arrays designed to protect high speed data interfaces. This device has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).
The device has a typical capacitance of only 3pF (typ.).
This means it can be used on circuits operating in excess of 1GHz without signal attenuation.
The UDT26A05L05 will meet the immunity requirement of IEC61000. Level 4. (15kV air, 8kV contact discharge).

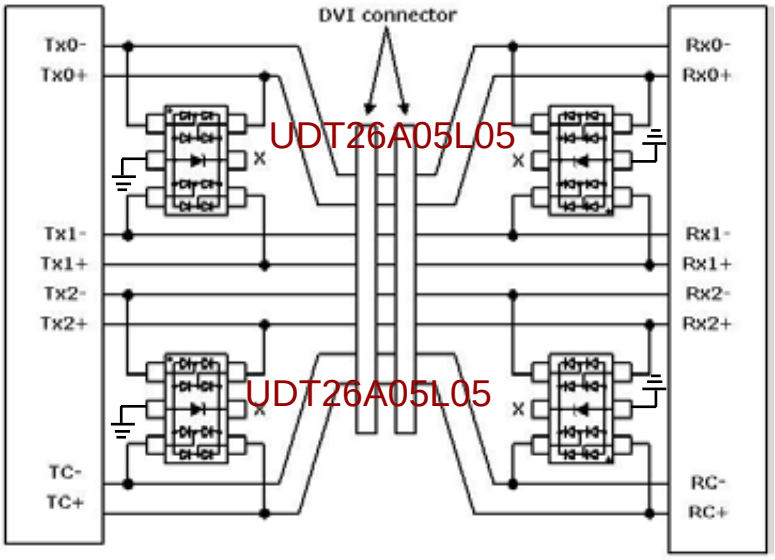
SPECIFICATION FEATURES

- IEC61000-4-2 ESD 15kV Air, 8kV contact compliance
- SOT-23 6L surface mount package
- Array of surge rated diodes with internal TVS Diode
- Peak power dissipation of 350W under 8/20μs waveform
- Protects four I/O lines & power line to ground
- Low leakage current
- Low capacitance and clamping voltages
- Sold-state silicon avalanche technology
- Lead Free/ RoHS Compliant
- Solder Reflow Temperature:
  Pure-Tin - Sn, 260-270°C
- Weight 16 milligrams (Approximate)
- Flammability rating UL 94V-0



APPLICATIONS

- USB Power and Data line Protection
- 10/100/1000 Ethernet
- Digital Video Interface(DVI)
- I^2C Bus Protection
- WAN/LAN Equipment
- ISDN S/T Interface
- Microcontroller Input Protection
- Portable Electronics
- SIM Ports
- IEEE 1394 Firewire Ports



DVI Data Line Protection

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Pulse Power (8/20μs waveform)	P_{PP}	350	W
ESD Voltage (HBM Contact)	V_{ESD}	±8	kV
ESD Voltage (AIR Contact)		±15	
Storage & Operating Temperature Range	T_{STG}, T_J	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_J=25℃)

UDT26A05L05 (Marking :B 05B OR 054)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{WRM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	6			V
Reverse Leakage Current	I_R	V_R=5V			5	μA
Clamping Voltage (tp=8/20μs)	V_C	I_{PP}=1A			9.8	V
Clamping Voltage (tp=8/20μs)	V_C	I_{PP}=10A			12	V
Clamping Voltage (tp=8/20μs)	V_C	I_{PP}=25A			20	V
Off State Junction Capacitance	C_J	0Vdc, f=1MHZ between I/O pins and GND		3		pF

TYPICAL CHARACTERISTICS CURVES

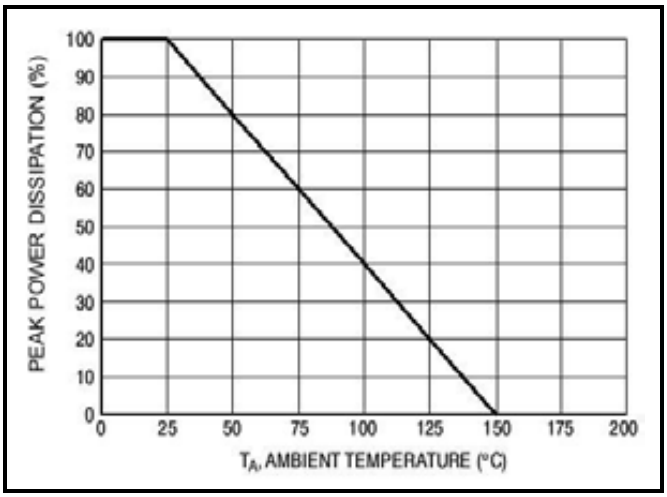


Figure 1. Power Derating Curve

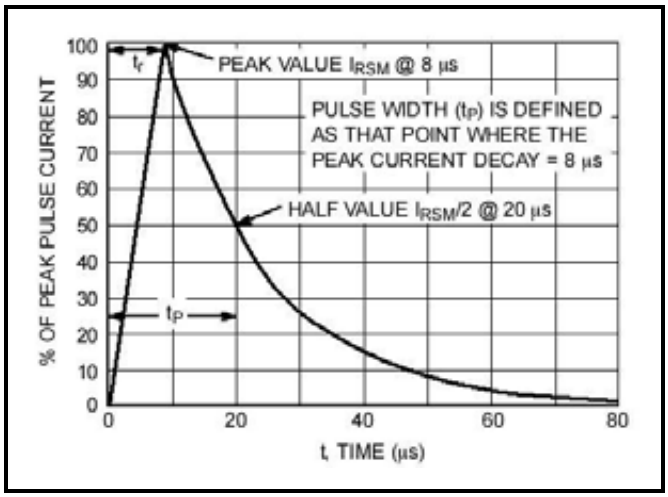


Figure 2. 8/20 μs Pulse Waveform

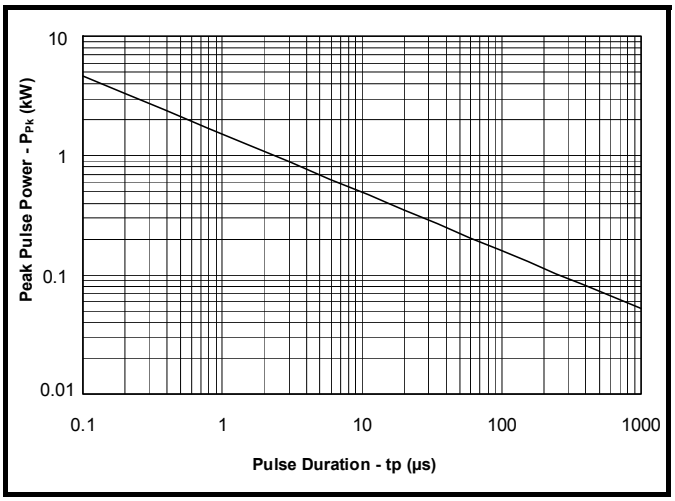


Figure 3. Non-Repetitive Peak Pulse vs. Pulse Time

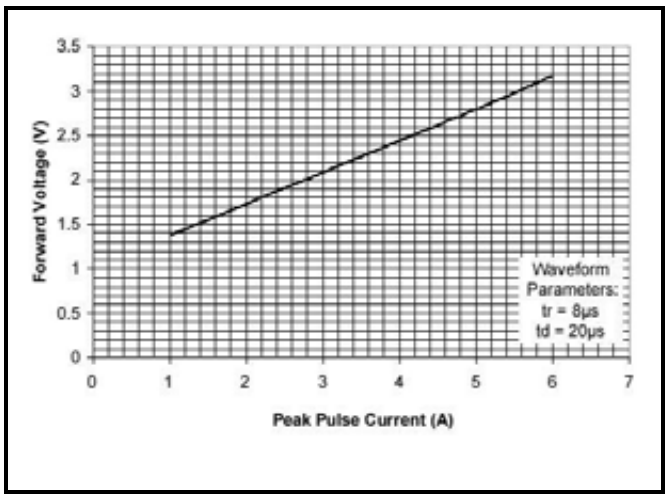


Figure 4. Forward Voltage vs. Forward Current

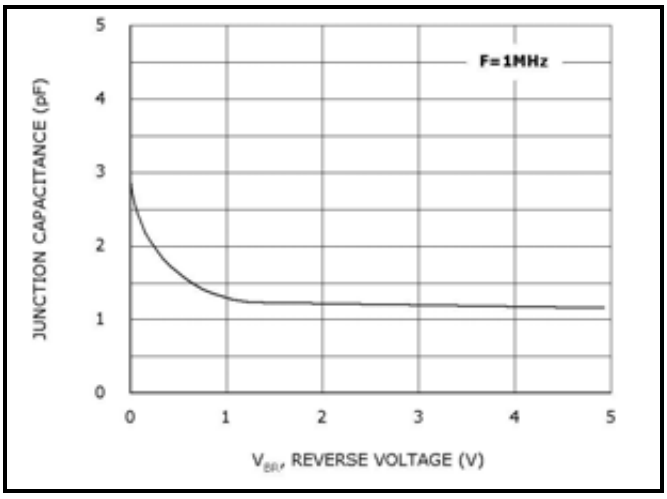


Figure 5. Capacitance vs. Reverse Voltage

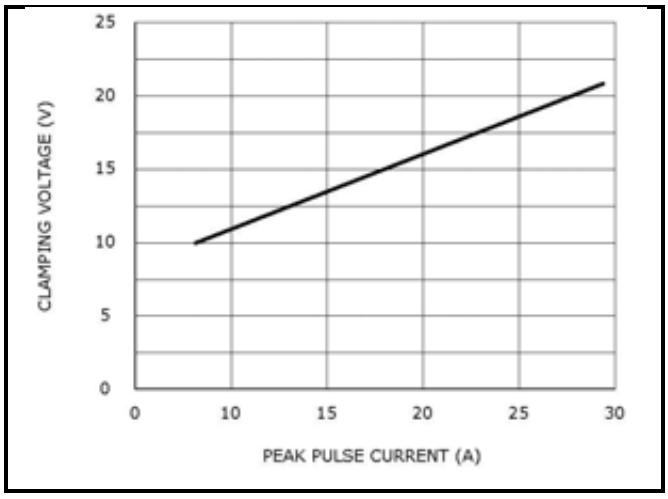
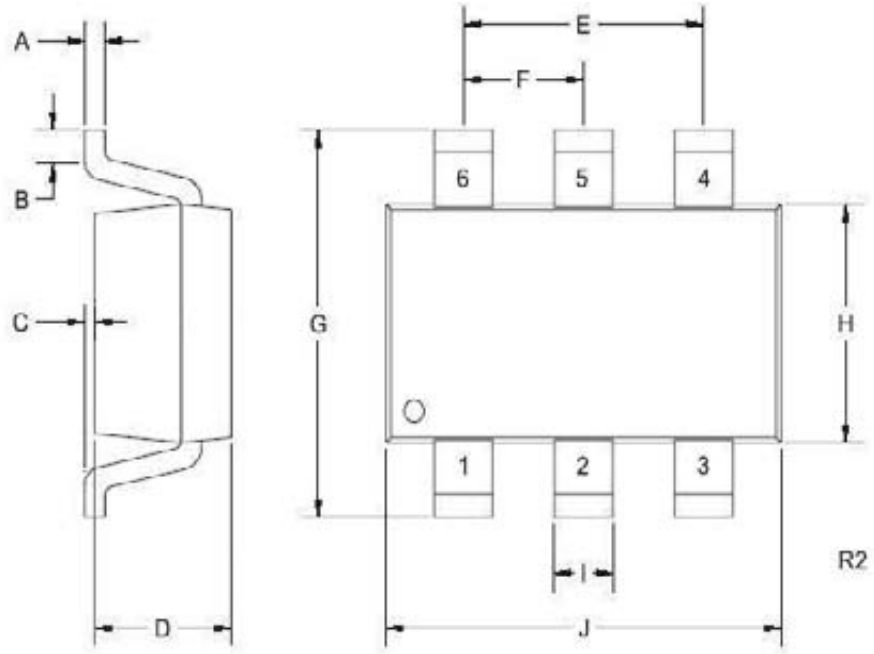


Figure 6. Clamping voltage vs Peak Pulse Current

PACKAGE AND SUGGESTED PAD LAYOUT DIMENSION

SOT-26



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	0.004	-	0.10
D	0.039	0.047	1.00	1.20
E	0.074	0.075	1.88	1.92
F	0.037	0.038	0.93	0.97
G	0.102	0.118	2.60	3.00
H	0.059	0.067	1.50	1.70
I	0.016		0.41	
J	0.110	0.118	2.80	3.00

SOT-26 (REV: R2)