

DESCRIPTION

Brightking's UFS08A2.8L04 component is designed to protect low voltage state-of-the-art CMOS semiconductors from transients caused by electro-static discharge (ESD), cable discharge events (CDE), lightning and other induced voltage surges.

The device provides low stand-off voltages with significant reductions in leakage currents and capacitance over silicon avalanche diode processes.

The UFS08A2.8L04 features integrated low capacitance compensation diodes that reduce the typical capacitance 5pF per line.

This combined with low leakage current, means signal integrity preserved in high-speed applications such as 10/100/1000 Ethernet.

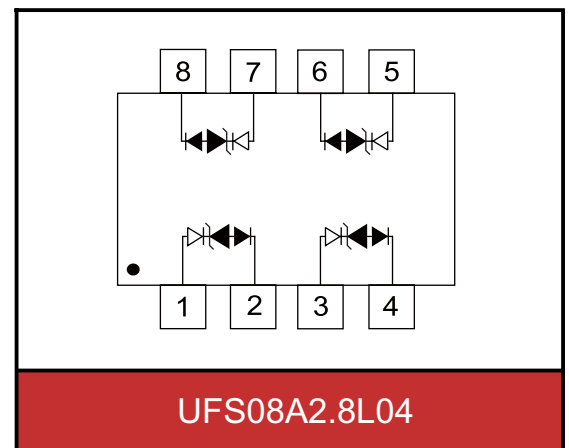


HBM : $\pm 8\text{kV}$
Air Mode : $\pm 15\text{kV}$



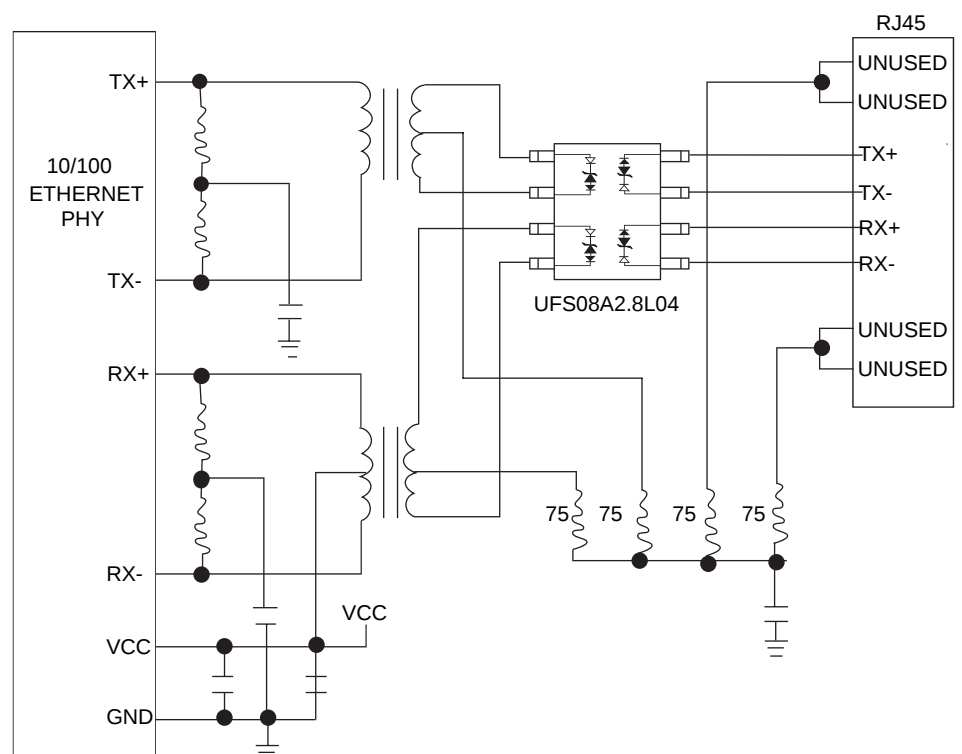
SPECIFICATION FEATURES

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOIC-08 surface mount package
- Protects four I/O lines
- Peak power dissipation of 600W under 8/20 μs waveform
- Working voltage: 2.8V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260-270°C
- Flammability rating UL 94V-0



APPLICATIONS

- 10/100/1000 Ethernet
- WAN/LAN Equipment
- High current switching systems
- Desktops, Servers and Notebook
- Instrumentation
- Analog inputs
- Base stations



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak pulse power (tp=8/20μs waveform)	P _{PP}	600	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

ELECTRICAL CHARACTERISTICS (T_J=25°C)

UFS08A2.8L04 (Marking:B SLVU2.8-4)

Rating	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V _{RWM}				2.8	V
Reverse breakdown voltage	V _{BR}	I _{BR} =1mA	3			V
Reverse leakage current	I _R	V _R =2.8V each I/O pin			5	μA
Clamping voltage (tp=8/20μs)	V _C	I _{PP} =5A			8.5	V
Peak pulse current (tp=8/20μs)	I _{PP}				24	A
Off state junction capacitance	C _J	0Vdc, f=1MHz between I/O pins and GND		5		pF
		0Vdc, f=1MHz between I/O pins			6	pF

TYPICAL CHARACTERISTICS CURVES

Figure 1. Power Derating Curve

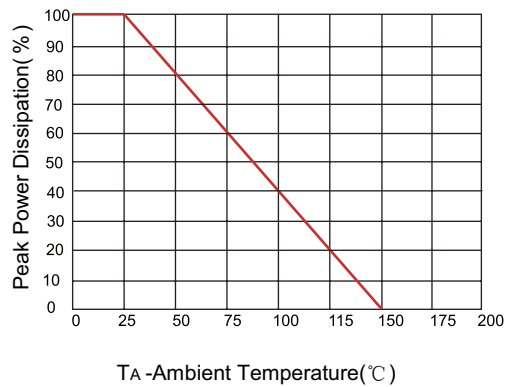


Figure 2. Pulse Waveforms

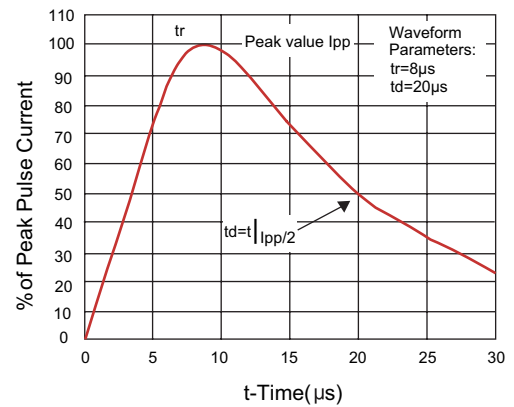


Figure 3. Non-Repetitive Peak Pulse vs Pulse Time

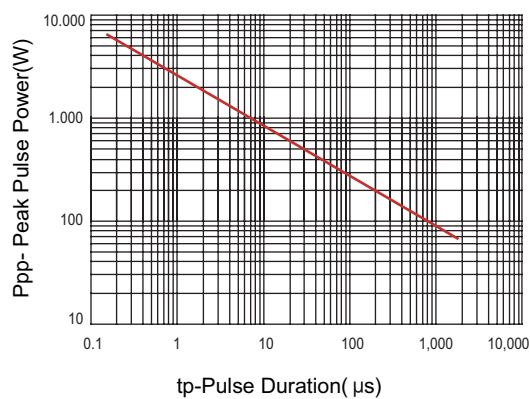


Figure 4. Capacitance vs. Reverse Voltage

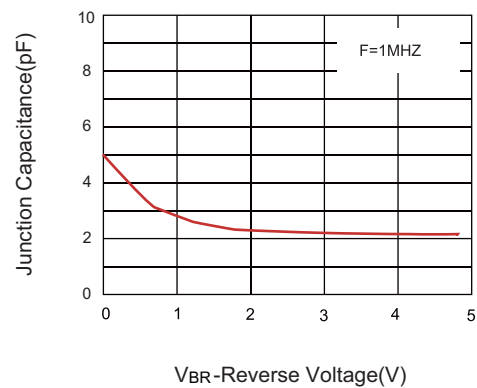
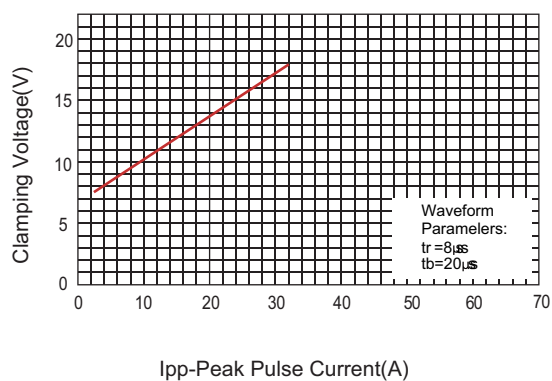
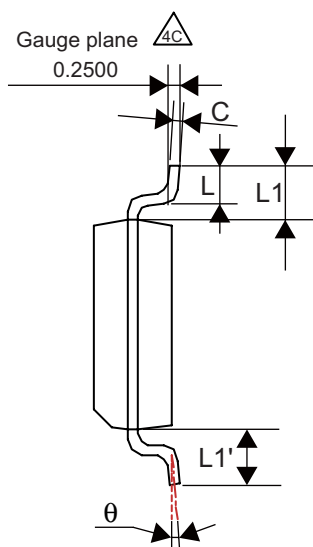
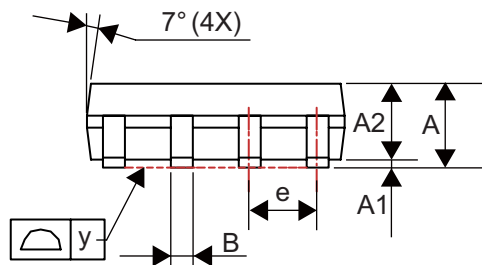
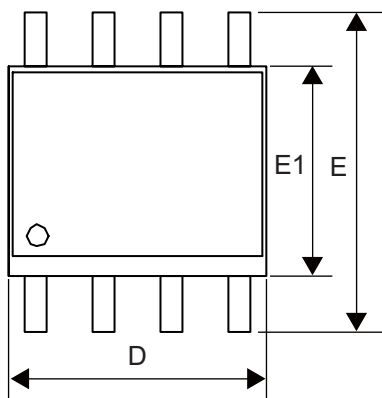


Figure 5. Clamping Voltage vs. Peak Pulse Current



PACKAGE AND SUGGESTED PAD LAYOUT DIMENSION

SOIC-08(unit:mm)



DIMENSIONS						
SYMBOL	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.053	0.063	0.069	1.35	1.60	1.75
A1	0.004	-	0.010	0.10	-	0.25
A2	-	0.057	-	-	1.45	-
B	0.013	-	0.020	0.33	-	0.51
C	0.007	-	0.010	0.19	-	0.25
D	0.189	-	0.197	4.80	-	5.00
E1	0.150	0.153	0.157	3.80	3.90	4.00
e	-	0.050	-	-	1.27	-
E	0.228	0.236	0.244	5.80	6.00	6.20
L	0.016	-	0.050	0.40	-	1.27
y	-	-	0.004	-	-	0.10
θ	0°	-	8°	0°	-	8°
L1-L1'	-	-	0.005	-	-	0.12
L1	0.041REF			1.04REF		

