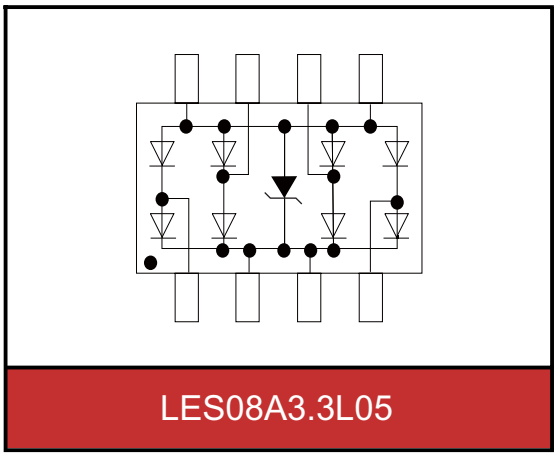
DESCRIPTION

Brightking's LES08A3.3L05 component is surge rated diode array designed to protect high speed data line interfaces. It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by electrostatic discharge (ESD) , electrical fast transients (EFT), and lightning. The unique design of this device incorporates surge rated, low capacitance steering diodes and TVS diodes in a single package. During transient conditions,the steering diodes direct the transient either the position side of the power supply or to the ground.

HBM : ±8kV
Air Mode : ±15kV

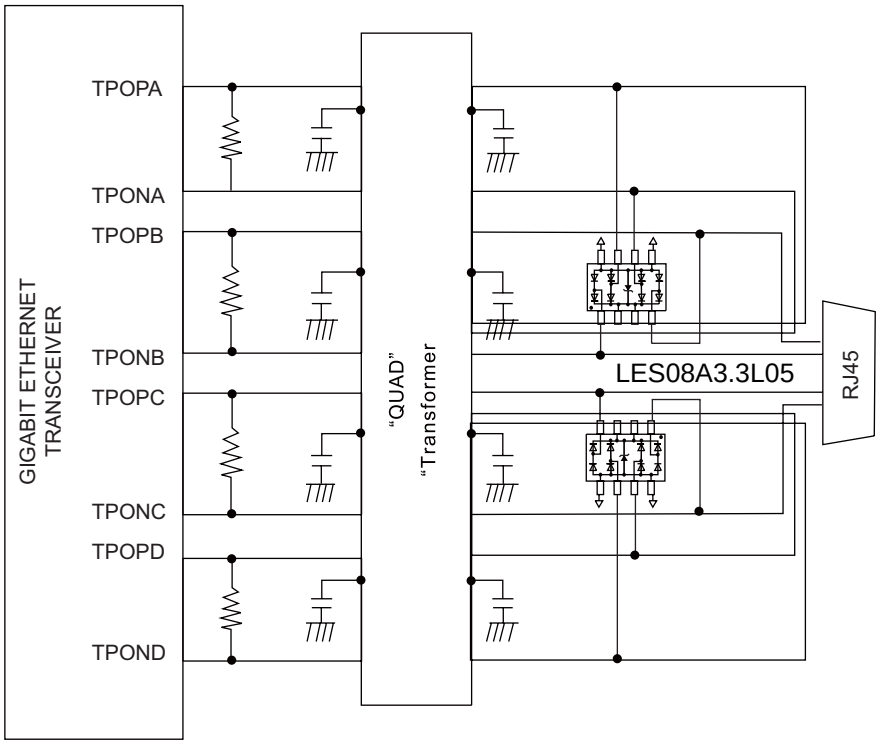
SPECIFICATION FEATURES

- IEC61000-4-2 ESD 15KV Air,8KV contact compliance
- SOIC-08 surface mount package
- Protects seven I/O lines and two power lines
- Peak power dissipation of 500W under 8/20μs waveform
- Working voltage : 3.3V
- Low leakage current
- Low capacitance and clamping voltages
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature:Pure Tin-Sn,260-270℃
- Flammability rating UL 94V-0



APPLICATIONS

- Ethernet-10/100 base T
- Firewire & USB protection
- Set Top Box (STB) protection
- Video card (DVI) protection
- T1/E1 secondary IC side protection
- T3/E3 secondary IC side protection
- HDSL secondary IC side protection
- IC bus protection
- Micro-controller line protection



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak pulse power (tp=8/20μs waveform)	Ppp	500	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℃)

LES08A3.3L05 (Marking : B RA3.3-4)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				3.3	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1mA	4			V
Reverse leakage current	I_R	V_R=3.3V each I/O pin			40	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=1A			8.5	V
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=10A			10.9	V
Off state junction capacitance	C_J	0Vdc,f=1MHZ between I/O pins and GND			15	pF

TYPICAL CHARACTERISTICS CURVES

Figure 1. Power Derating Curve

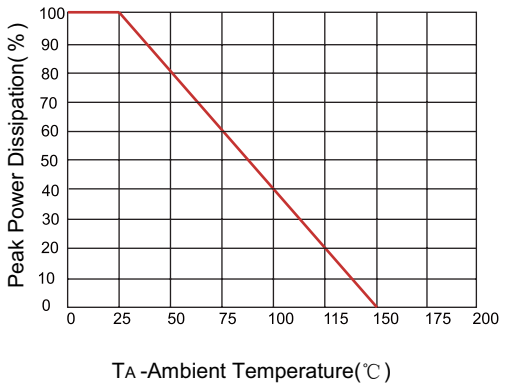


Figure 2. Pulse Waveforms

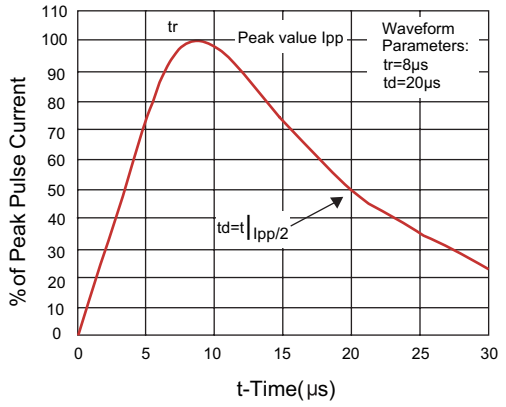


Figure 3. Non-Repetitive Peak Pulse vs Pulse Time

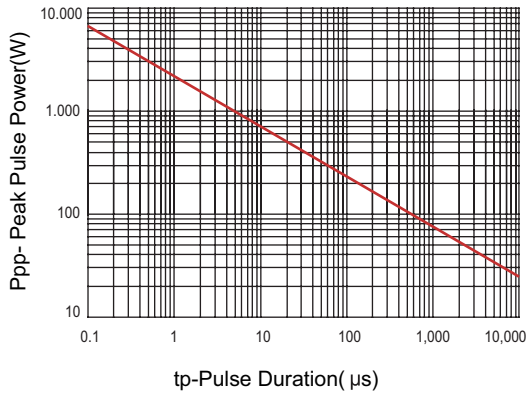
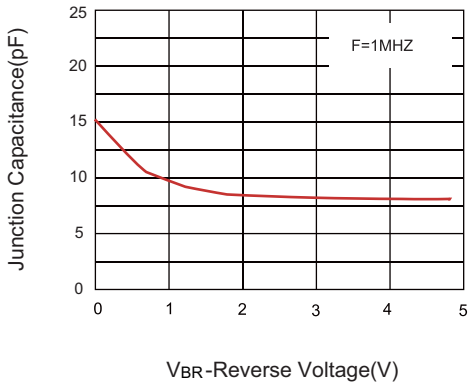
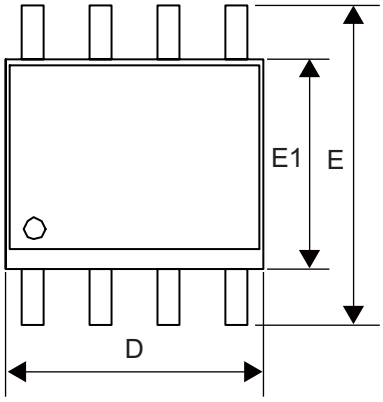


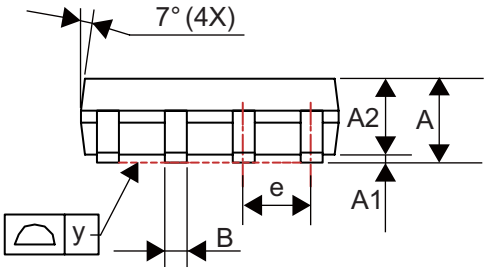
Figure 4. Capacitance vs. Reverse Voltage

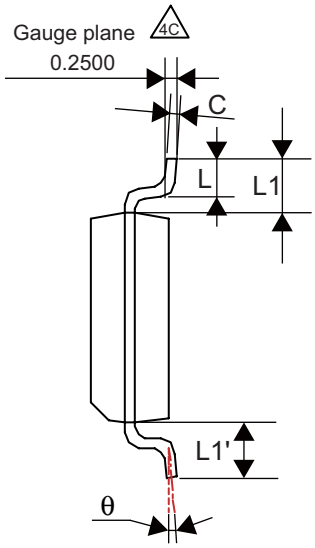
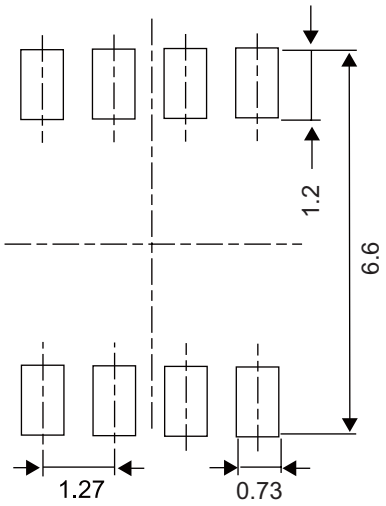


PACKAGE AND SUGGESTED PAD LAYOUT DIMENSION

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