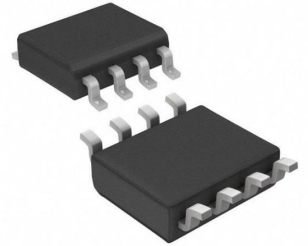


Descriptions

UP4PS08A2.8P04 component is designed to protect low voltage state-of-the-art CMOS semiconductors from transients caused by electrostatic 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 UP4PS08A2.8P04 features integrated low capacitance compensation diodes that reduce the typical capacitance 5pF per line.

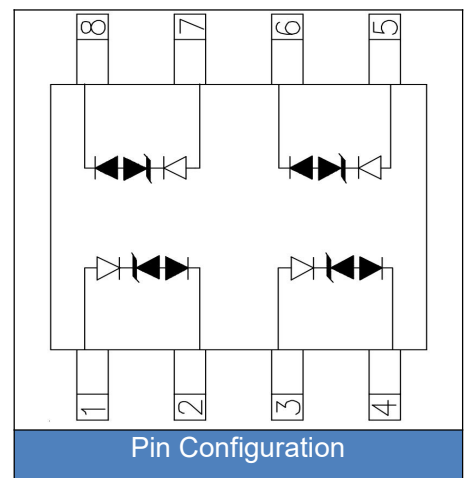
This combined with low leakage current, means signal integrity preserved in high-speed applications such as 10/100 Ethernet.



Features

- ◆ 400 Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆ Transient protection four high speed data lines to IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (Lightning) 24A (8/20 μs)
- ◆ SOIC-08 surface mount package
- ◆ Protects two line pairs (four lines)
- ◆ Comprehensive pin out for easy board layout
- ◆ Working voltage: 2.8V
- ◆ Low leakage current
- ◆ Low capacitance
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

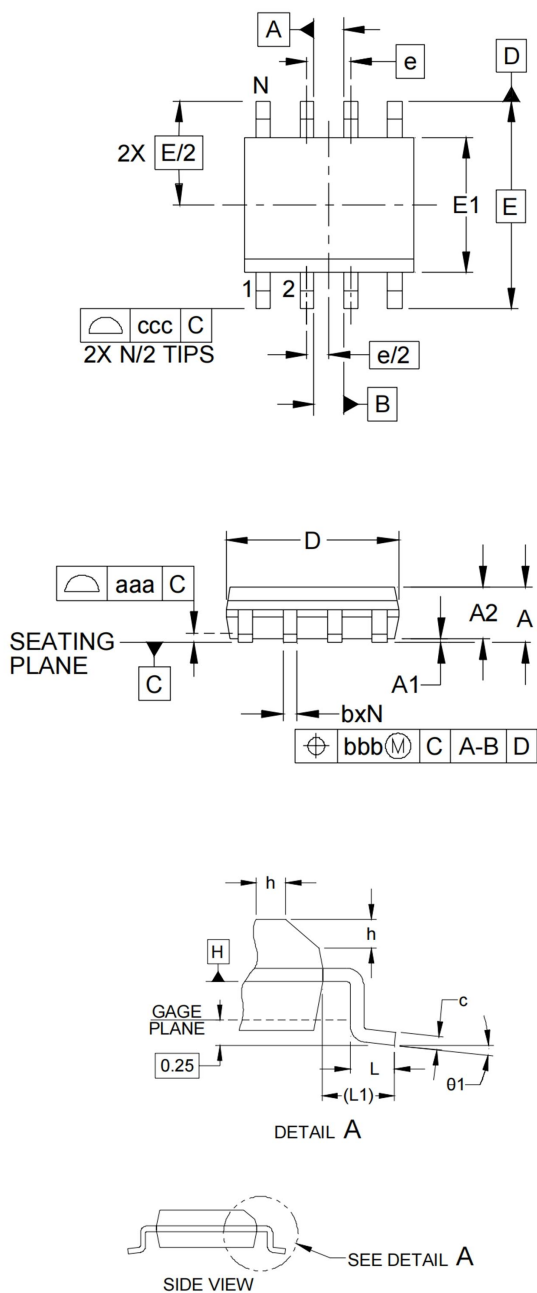
Schematic



Applications

- ◆ 10/100 Ethernet
- ◆ WAN/LAN Equipment
- ◆ Switching Systems
- ◆ Desktops, Servers and Notebook
- ◆ Instrumentation
- ◆ Analog inputs
- ◆ Base stations

Dimensions(SOIC-08)



Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.35	1.75	0.053	0.069
A1	0.10	0.25	0.004	0.010
A2	1.25	1.65	0.049	0.065
b	0.31	0.51	0.012	0.020
c	0.17	0.25	0.007	0.010
D	4.80	5.00	0.189	0.197
E1	3.80	4.00	0.150	0.157
E	6.00 BSC		0.236 BSC	
e	1.27 BSC		0.050 BSC	
h	0.25	0.50	0.010	0.020
L	0.40	1.04	0.016	0.028
L1	(1.04)		(0.041)	
N	8		8	
θ1	0°	8°	0°	8°
aaa	0.10		0.004	
bbb	0.25		0.010	
ccc	0.20		0.008	

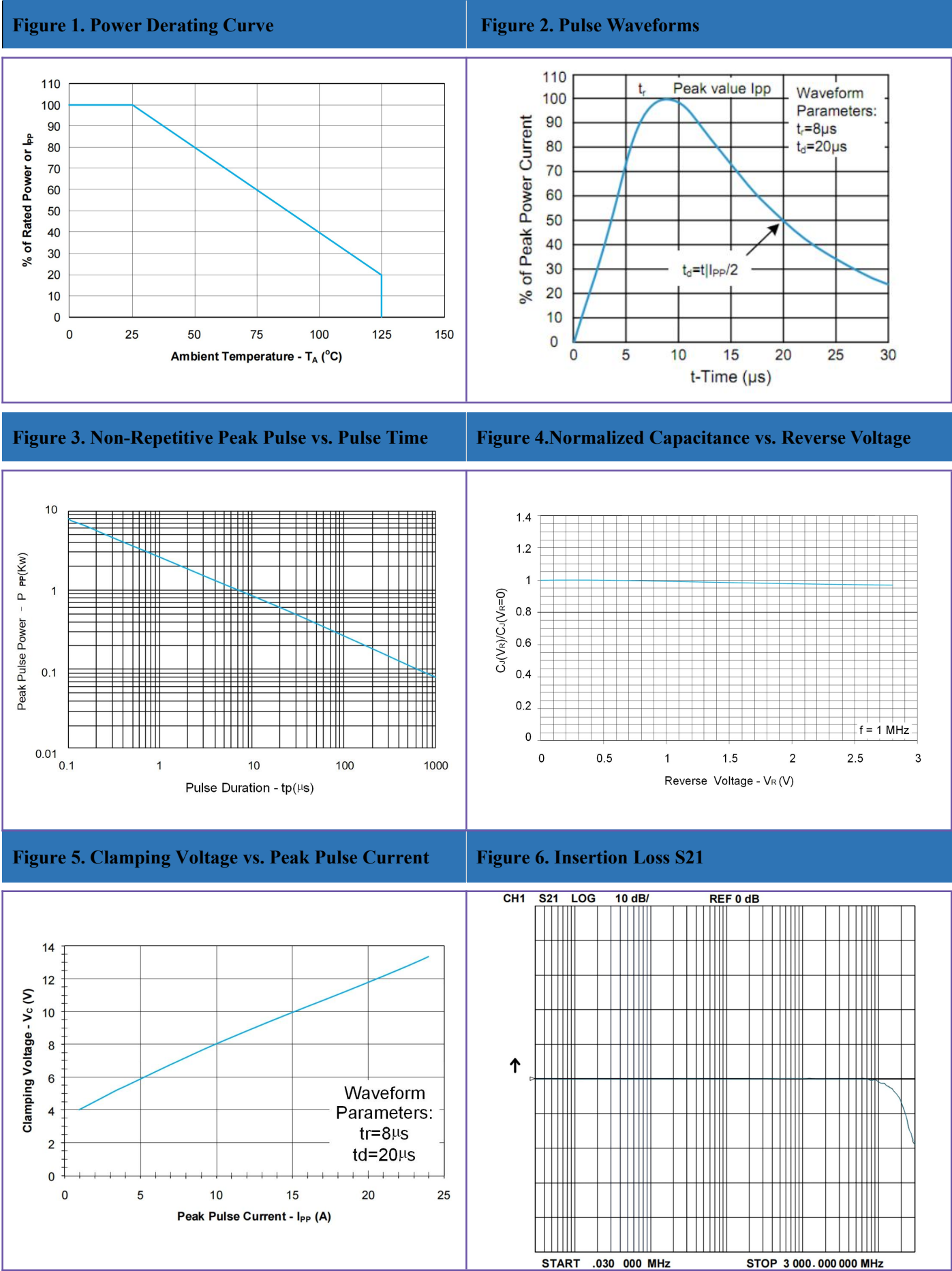
Maximum Ratings($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
ESD voltage (Contact discharge)	V_{ESD}	± 30	kV
ESD voltage (Air discharge)		± 30	
Operating temperature range	T_J	$-55\sim+125$	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	$-55\sim+150$	$^{\circ}\text{C}$

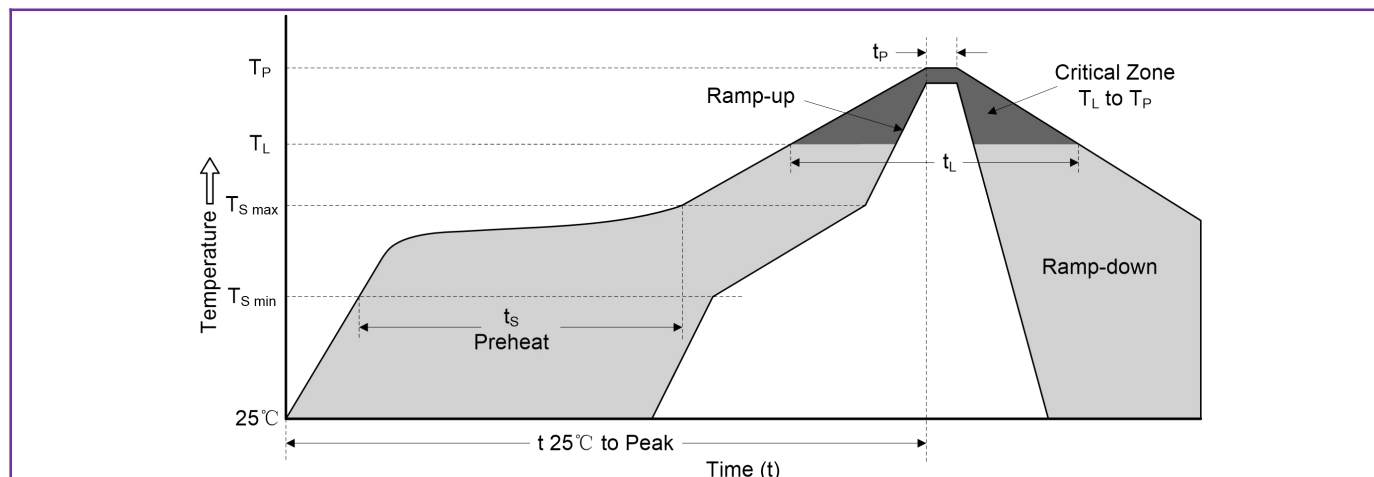
Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Reverse stand-off voltage	V_{RWM}				2.8	V
Reverse breakdown voltage	V_{BR}	$I_{\text{BR}}=1\text{mA}$	3			V
Reverse leakage current	I_{R}	$V_{\text{R}}=2.8\text{V}$ Each Line			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_{C}	$I_{\text{PP}}=5\text{A}$		8.5		V
Peak pulse current ($t_p=8/20\mu\text{s}$)	I_{PP}				24	A
junction capacitance	C_J	0Vdc, $f=1\text{MHz}$ Each Line		5		pF

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_p)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_p)		8 minutes max.
Do not exceed		260°C

Packaging

Part number	QTY/PKG	Reel Size
UP4PS08A2.8P04	500/Reel	7Inch