

Description

The CSL05FBB is designed to protect voltage sensitive components from ESD and transient voltage events.

Excellent clamping capability, low leakage, and fast response time. The CSL05FBB is suited for high speed data and transmission lines from over voltage caused by ESD, CDE and EFT.



Mechanical Characteristics

- ◆DFN1006-2L
- ◆ROHS/ Compliant
- ◆Halogen free
- ◆Molding compound flammability rating: UL 94V-0
- ◆Marking: Part number
- ◆Packing: Tape and Reel per EIA 481

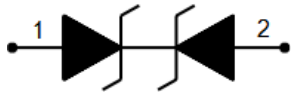
Features

- ◆IEC 61000-4-2 (ESD)
 - ±20kV Contact Discharge
 - ±25kV Air Discharge
- ◆IEC 61000-4-5 (Lightning)
 - 4A (8/20μs)
- ◆IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- ◆Halogen free and RoHS compliant
- ◆Protects one directional I/O line
- ◆Transient protection for high-speed data lines
- ◆Low clamping voltage
- ◆Low leakage current

Applications

- ◆Cell Phone Handsets and Accessories
- ◆Microprocessor based equipment
- ◆Personal Digital Assistants
- ◆Notebooks / Desktops / Servers
- ◆Portable Instrumentation
- ◆Display ports/DVI
- ◆USB data line

Dimensions and Pin Configuration

Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		

Ordering Information

Part Number	Package	Marking	Packing	Reel Size
CSL05FBB-JY	DFN1006-2L	5F	10000/Tape & Reel	7 inch

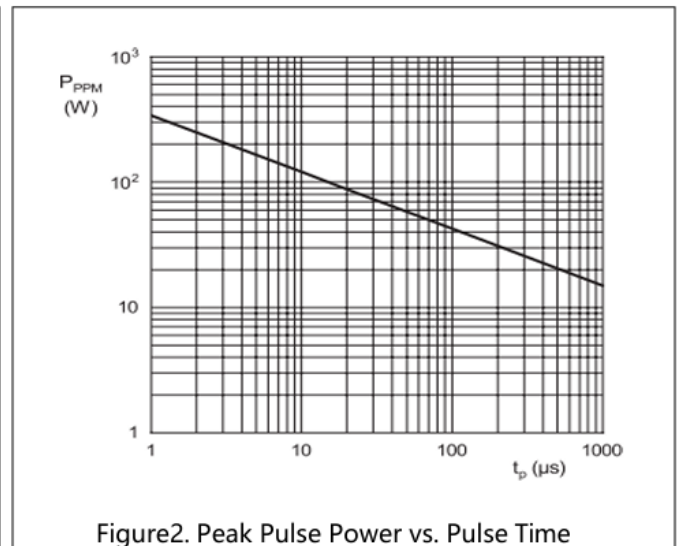
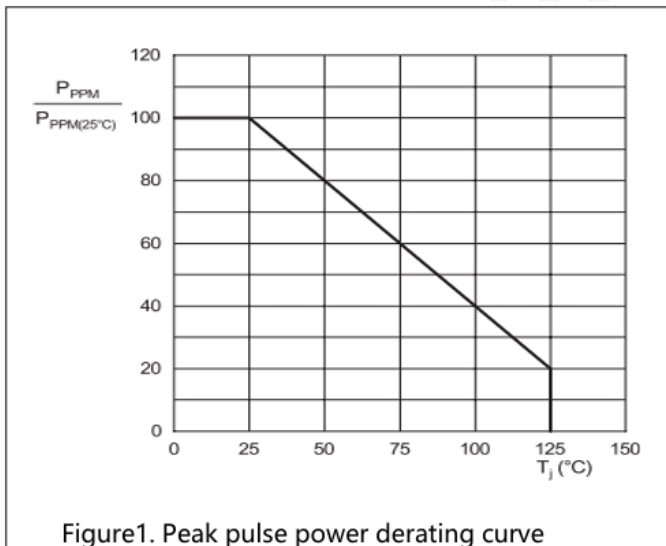
Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20 μs)@25°C	P _{pk}	-	80	W
Peak pulse current (tp=8/20 μs)@25°C	I _{PP}	-	4	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±25	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±20	kV
Junction temperature	T _J	-	125	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V _{RWM}				5.0	V
Reverse Breakdown Voltage	V _{BR}	IT=1mA	6.5			V
Reverse Leakage Current	I _R	VRWM=5V			0.1	μA
Clamping Voltage	V _C	I _{PP} =1A; tp=8/20 μs		10		V
Clamping Voltage	V _C	I _{PP} =4A; tp=8/20 μs		18		V
Junction Capacitance	C _J	I/O to GND; VR=0V; f=1MHz		0.2		pF

Typical Performance Characteristics (TA=25°C unless otherwise Specified)



5.0 Volt Ultra Low Capacitance ESD diode

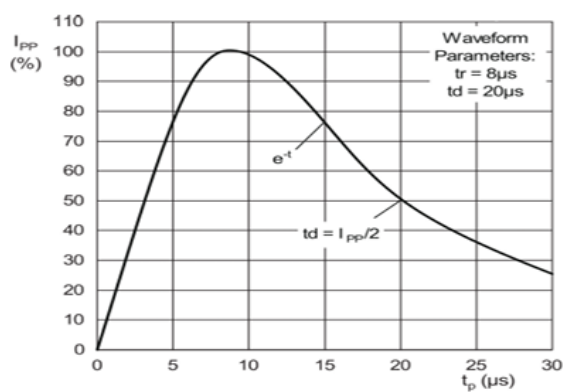


Figure3. Pulse Waveform

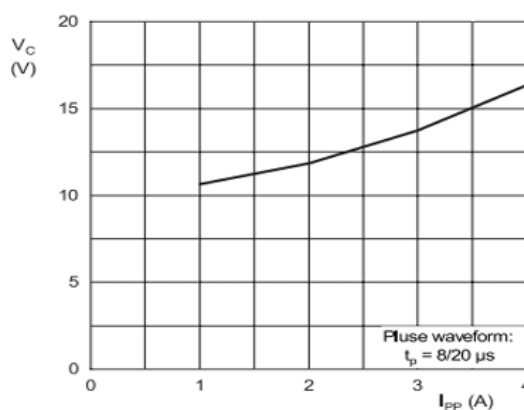


Figure4. Clamp voltage Vs. current

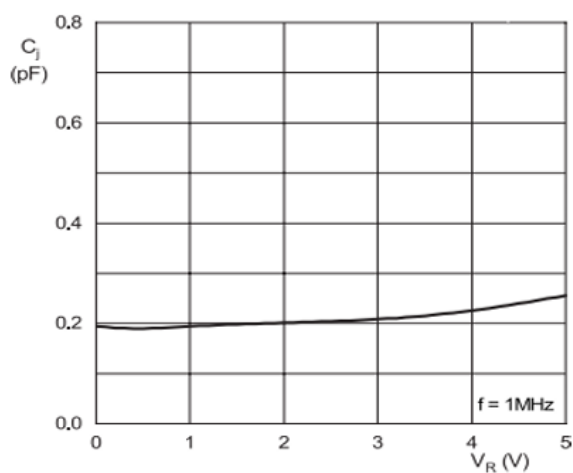


Figure5. Capacitance Vs. Vr

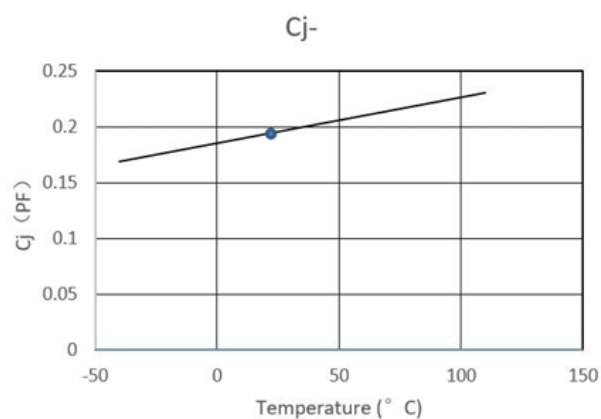
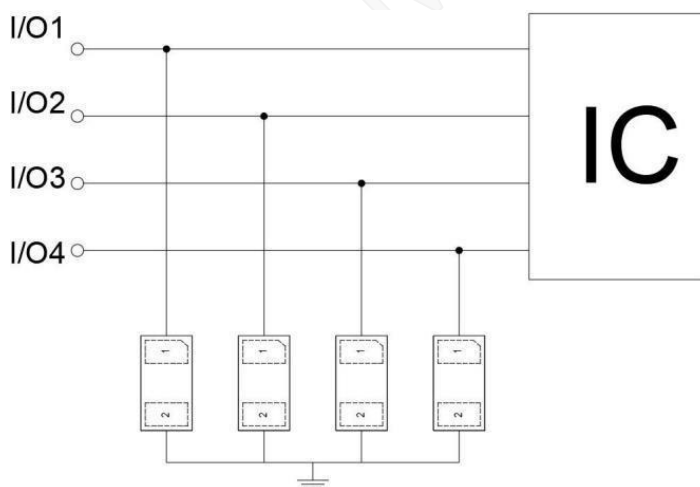
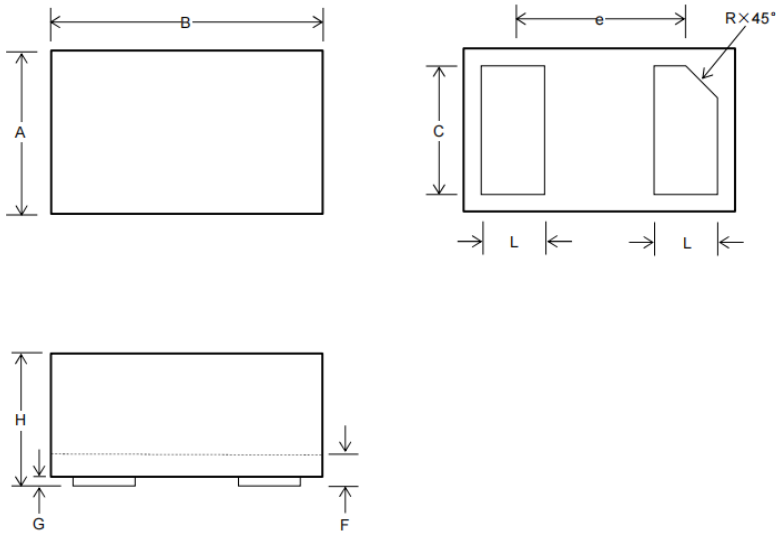


Figure6. TEMP-Cj curve

Applications Information

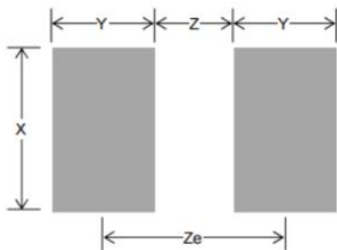


Package Outline Drawing



DFN1006			
SYMBOL	Millimeters		
	MIN	NOM	MAX
A	0.55	0.6	0.68
B	0.95	1	1.08
C	0.45	0.5	0.55
F	0.12		0.18
G	-	0	0.05
H	0.45	0.475	0.5
L	0.2	0.25	0.3
e		0.65	
X		0.6	
Y		0.5	
Z		0.3	
Ze		0.8	

Recommended Land Pattern



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