Description

This CTESD4V5M1B2ZP is in a DFN1006-2L Plastic Package 1-Line,Bi-directional,ESD Protection Diode.

Applications

- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

Features

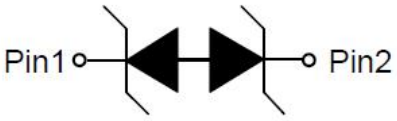
- Stand-off voltage: ±4.5V Max
- Transient protection for each line according to

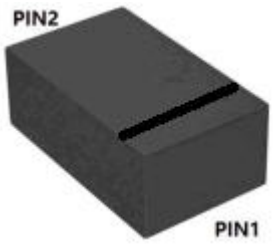
  IEC61000-4-2(ESD): ±30kV (contact)

  IEC61000-4-4 (EFT): 40A (5/50ns)

  IEC61000-4-5(surge): 40A (8/20μs)
- Ultra-low capacitance: CJ = 65pF typ.
- Low leakage current:
- Low clamping voltage: VCL =7.0V typ. @ IPP = 16A (TLP)
- Solid-state silicon technology
- Halogen-free product

Equivalent Circuit & Pinning





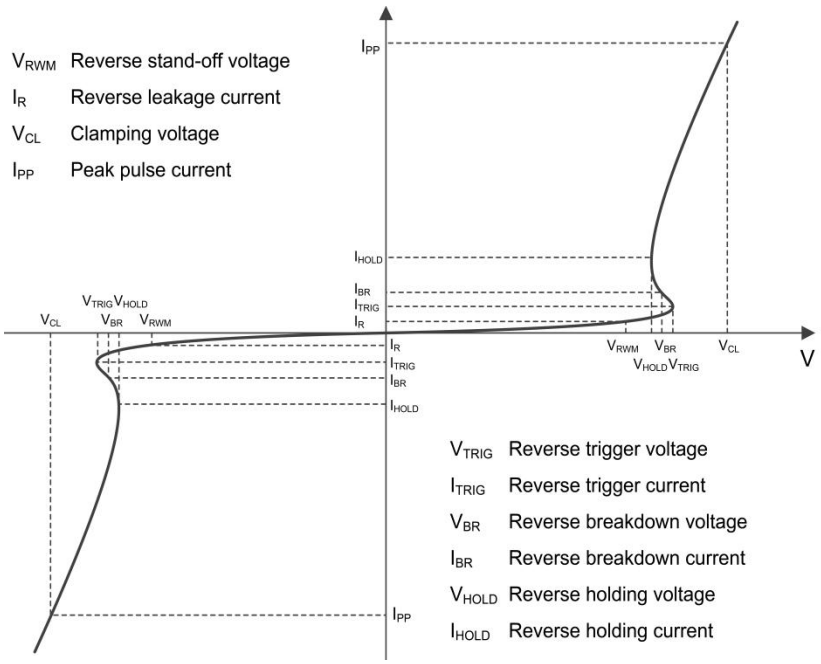
Marking

See Marking Instructions.

Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Peak Pulse Power(t_p = 8/20μs)	P_{PK}	400	W
Peak Pulse Current(t_p = 8/20μs)	I_{PP}	40	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	125	℃
Operating temperature	T_{OP}	-40~85	℃
Lead temperature	T_L	260	℃
Storage Temperature	T_{STG}	-55~+150	℃

Electrical Characteristics(Ta=25℃，unless otherwise noted)



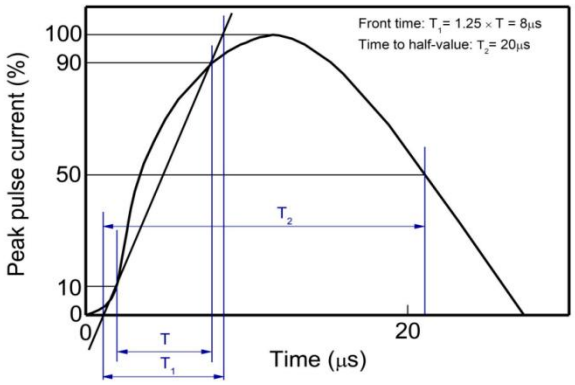
Definitions of electrical characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse maximum working voltage	V_{RWM}				±4.5	V
Reverse leakage current	I_R	V_{RWM} = ±4.5V			1	μA
Reverse breakdown voltage	V_{BR}	I_T=1mA	4.6			V
Clamping voltage 1)	V_{CL}	I_{PP}=16A t_p=100ns		7		V
Dynamic resistance 1)	R_{DYN}			0.09		Ω
Clamping voltage 2)	V_{CL}	V_{ESD}= 8kV		9		V
Clamping voltage 3)	V_{CL}	I_{PP} = 1A t_p = 8/20μs		4.9	6	V
		I_{PP} = 20A t_p = 8/20μs		6.5	8	V
		I_{PP} = 40A t_p = 8/20μs		9	10	V
Junction Capacitance	C_J	V_R = 0V f = 1MHz		65	75	pF

Notes:
1) TLP parameter: Z0 = 50Ω, tp = 100ns, tr = 2ns, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.
2) Contact discharge mode, according to IEC61000-4-2.
3) Non-repetitive current pulse, according to IEC61000-4-5.

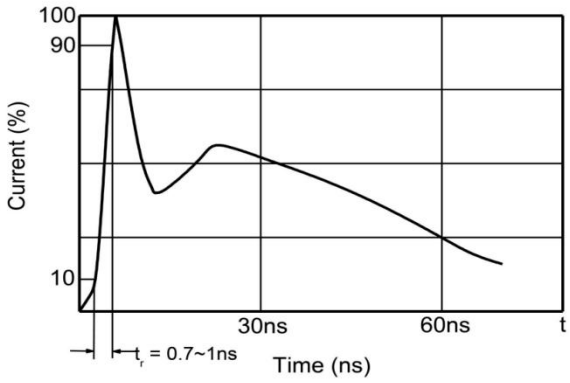
Electrical Characteristic Curve(Ta=25℃，unless otherwise noted)

Non-repetitive peak pulse power vs. Pulse time

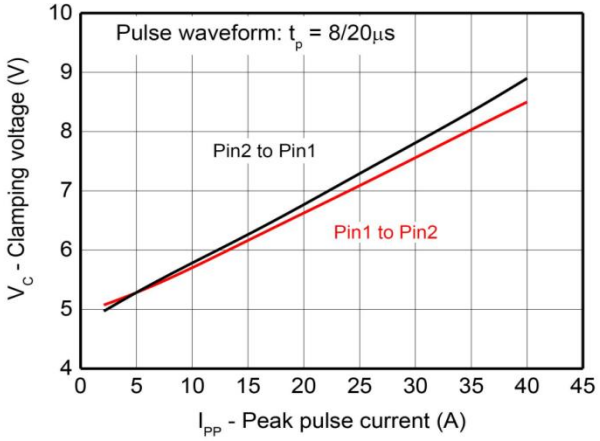


8/20μs waveform per IEC61000-4-5

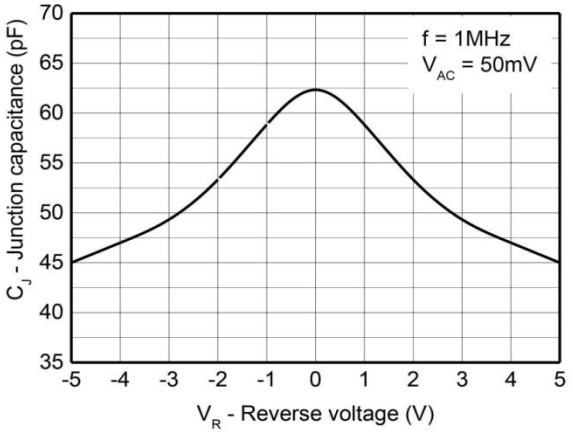
Power derating vs. Ambient temperature



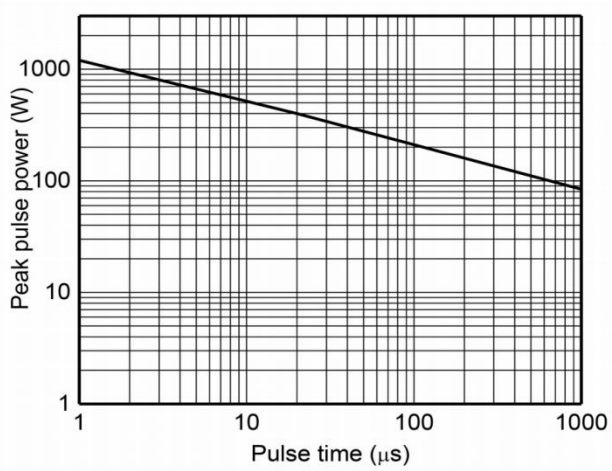
Contact discharge current waveform per IEC61000-4-2



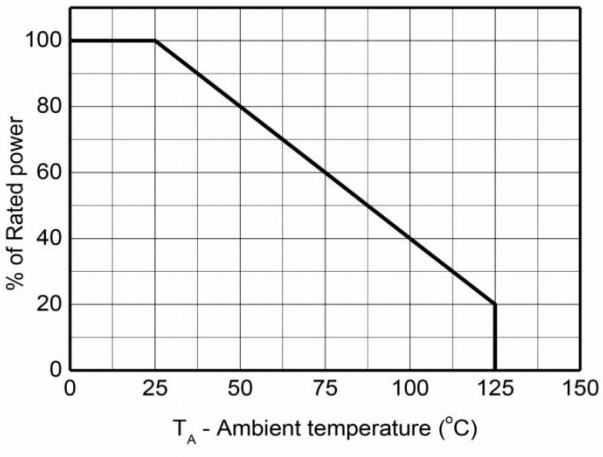
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

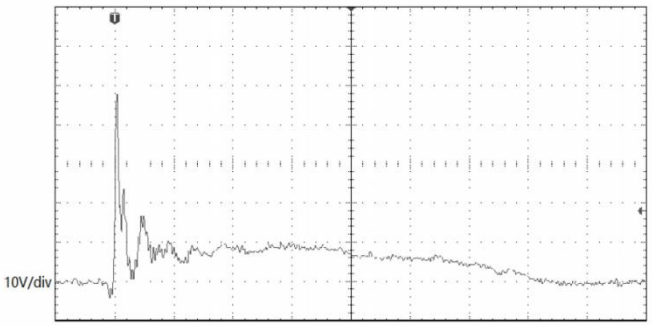


Non-repetitive peak pulse power vs. Pulse time

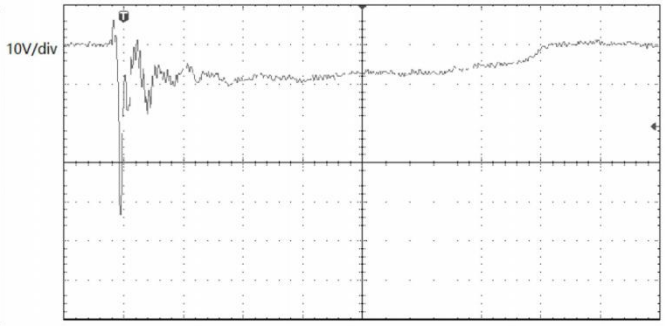


Power derating vs. Ambient temperature

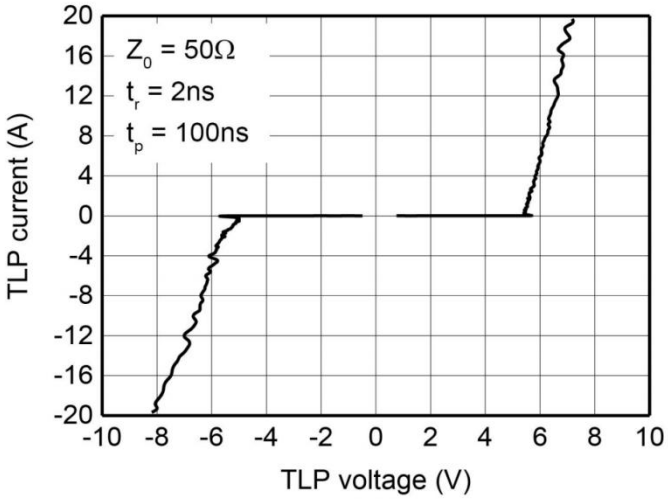
Electrical Characteristic Curve(Ta=25℃，unless otherwise noted)



ESD clamping
(+8kV contact discharge per IEC61000-4-2)

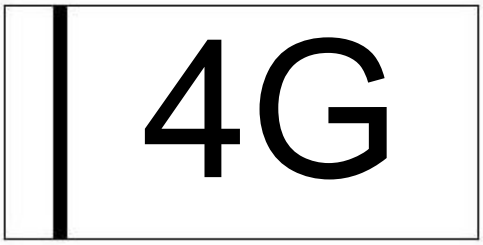


ESD clamping
(-8kV contact discharge per IEC61000-4-2)



TLP Measurement

Marking Information



Note:

4G: Product Type.

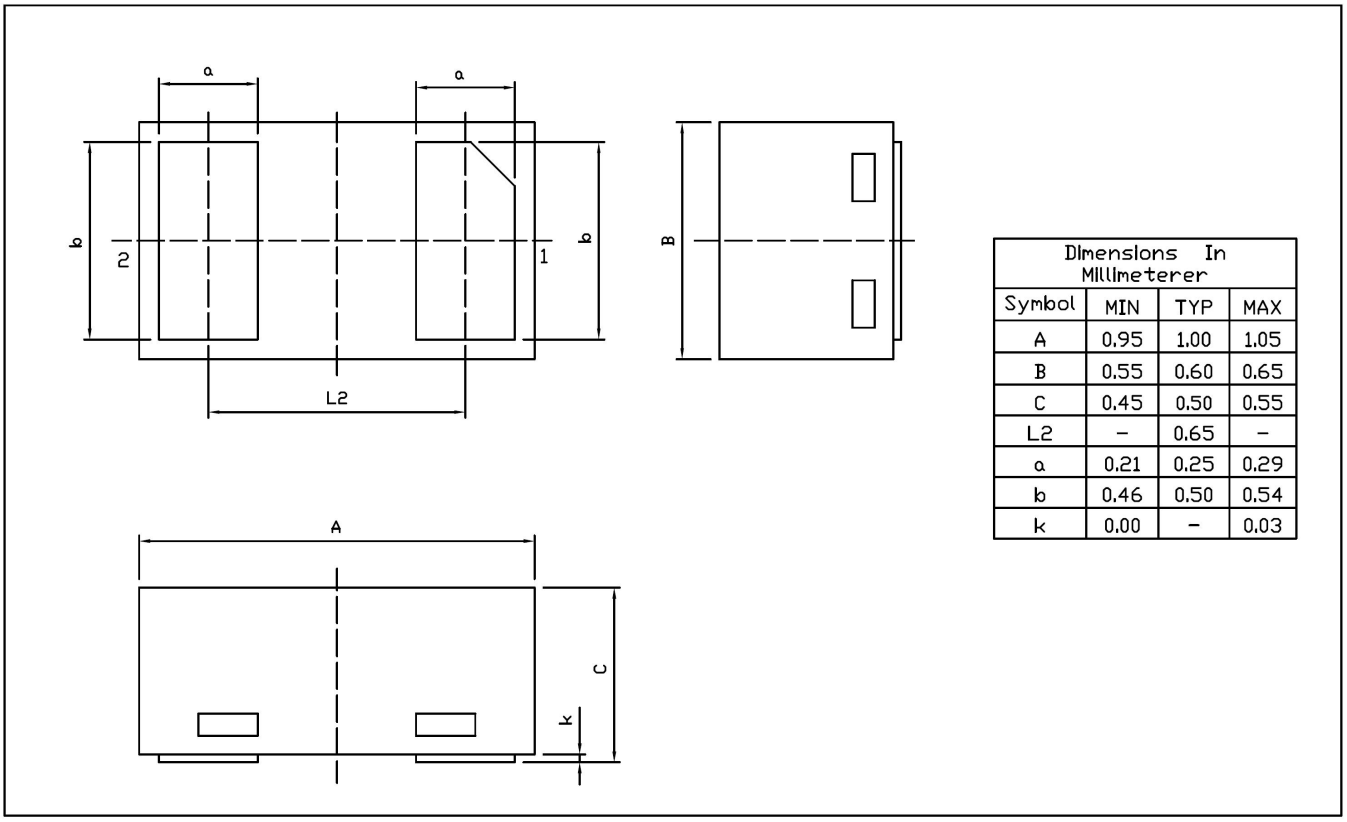
Packaging SPEC

REEL

Package Type	Units					Dimension (unit: mm³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
DFN1006-2L	10,000	10	100,000	6	600,000	7″ ×8	180×120×180	390×385×205

Package Dimensions

DFN1006-2L Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	0.95	1.00	1.05
B	0.55	0.60	0.65
C	0.45	0.50	0.55
L2	-	0.65	-
a	0.21	0.25	0.29
b	0.46	0.50	0.54
k	0.00	-	0.03

Rev.01 202108