



### FEATURES

- ✧ Solid-state silicon-avalanche technology
- ✧ Protects 8 high-speed I/O channels
- ✧ Low capacitance
- ✧ Low operating and clamping voltage
- ✧ Low leakage current
- ✧ RoHS compliant

### MAIN APPLICATIONS

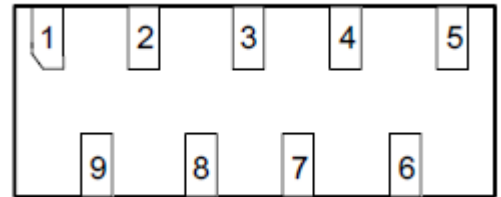
- ✧ V-By-One
- ✧ Display port interface
- ✧ LVDS interfaces
- ✧ SATA and eSATA interfaces
- ✧ High definition multi-media interface(HDMI)

### PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD)  $\pm 20\text{kV}$  (air),  $\pm 20\text{kV}$  (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 5A (8/20 $\mu\text{s}$ )

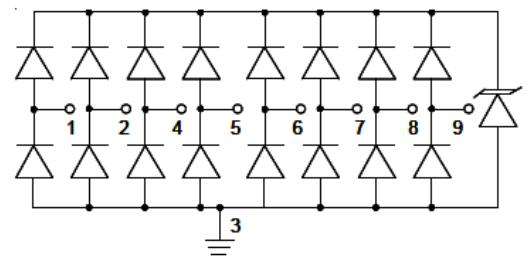
### MECHANICAL CHARACTERISTICS

- ✧ DFN3810-9L package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 5,000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: 7538MP+data code



Pin	Identification
1,2,4,5,6,7,8,9	I/O
3	Ground

Schematic & PIN Configuration



Circuit Diagram

**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

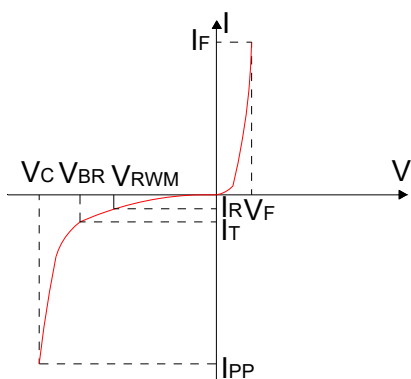
Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 $\mu\text{s}$ waveform	$P_{PP}$	75	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	+/- 20 +/- 20	kV
Lead soldering temperature	$T_L$	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	$V_{RWM}$	I/O to GND			5.0	V
Reverse breakdown voltage	$V_{BR}$	I/O to GND@ $I_T=1\text{mA}$	6.5	7.5	11	V
Reverse leakage current	$I_R$	I/O to GND @ $V_{RWM}=5\text{V}$			0.1	$\mu\text{A}$
Clamping voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$			12	V
		$I_{PP}=5\text{A}$ , $t_p=8/20\mu\text{s}$			15	V
Junction capacitance	$C_J$	$V_{RWM}=0\text{V}$ , $f=1\text{MHz}$ I/O pin to GND		0.5	0.6	pF
		$V_{RWM}=0\text{V}$ , $f=1\text{MHz}$ Between I/O pins		0.25	0.4	pF

**RATINGS AND V-I CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

**FIG.1:V- I curve characteristics (Uni-directional)**



**FIG.2: Pulse waveform (8/20 $\mu\text{s}$ )**

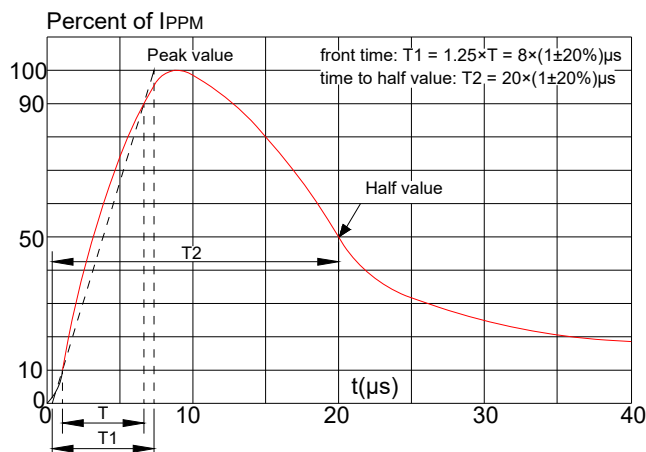


FIG.3: Pulse derating curve

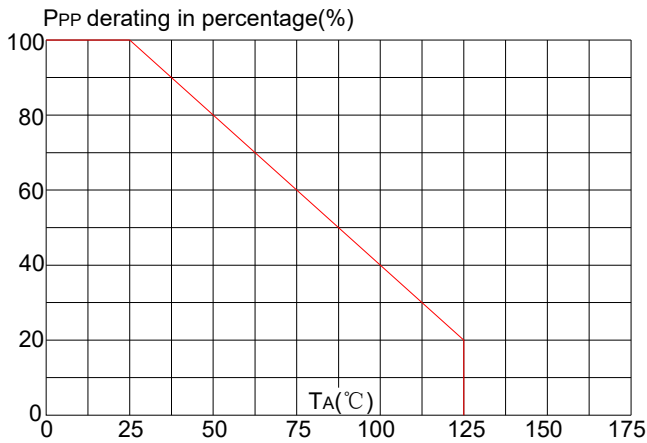
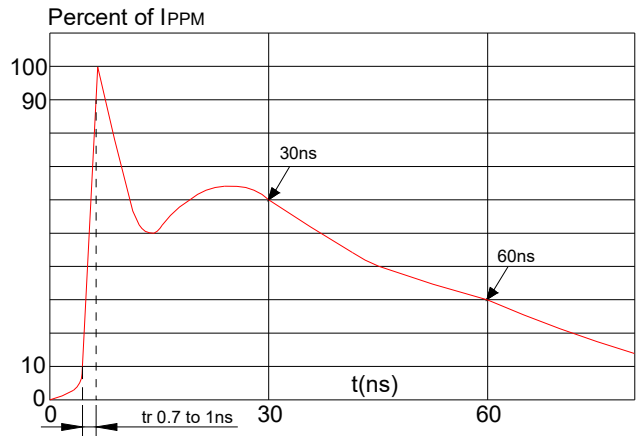
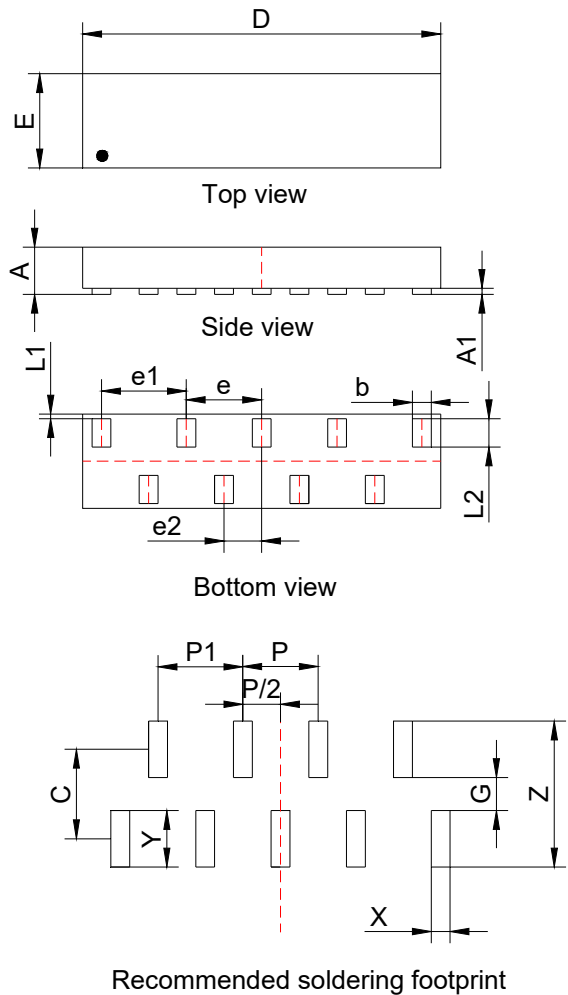


FIG.4: ESD clamping (20kV contact)

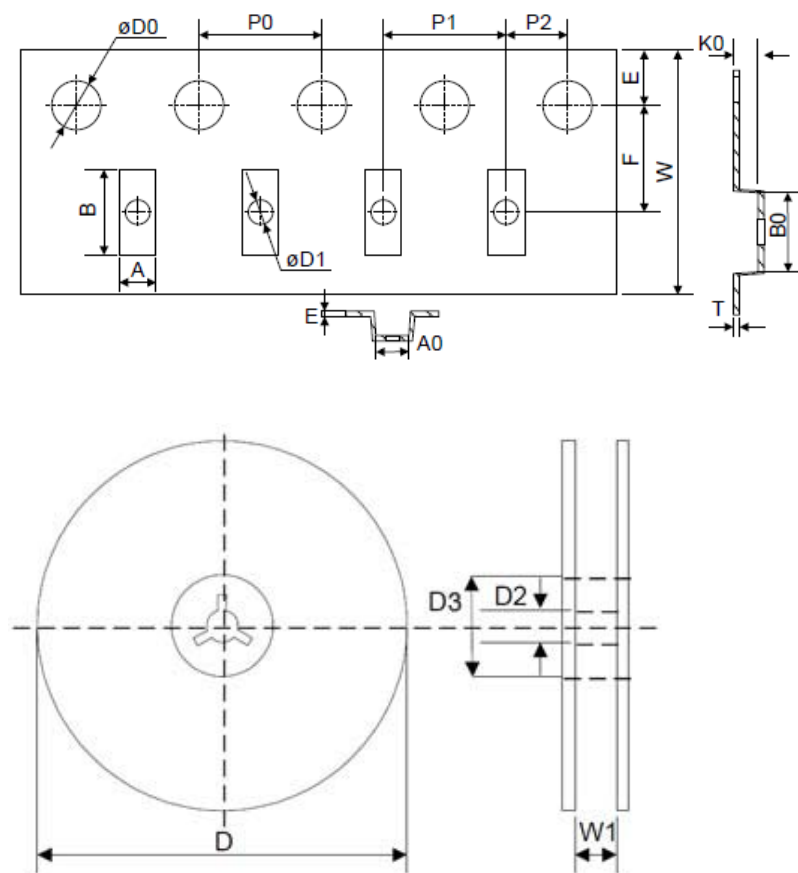


PACKAGE MECHANICAL DATA



Symbol	Millimeter			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.45	0.50	0.65	0.018	0.020	0.026
A1	-	0.02	0.05	-	0.001	0.002
b	0.15	0.20	0.25	0.006	0.008	0.010
D	3.70	3.80	3.90	0.146	0.150	0.154
E	0.90	1.00	1.10	0.035	0.039	0.043
e	0.80REF.			0.031REF.		
e1	0.90REF.			0.035REF.		
e2	0.40REF.			0.016REF.		
L1	0.025	0.050	0.075	0.001	0.002	0.003
L2	0.25	0.30	0.35	0.010	0.012	0.014
C	0.95			0.037		
G	0.35			0.014		
P	0.8			0.031		
P1	0.9			0.035		
X	0.2			0.008		
Y	0.6			0.024		
Z	1.55			0.061		

**PACKAGE INFORMATION**

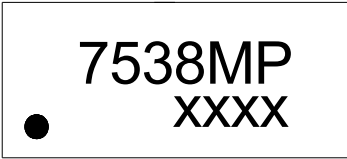


Symbol	Dimensions	
	Millimeter	Inches
A0	1.20±0.05	0.047±0.002
B0	4.00±0.05	0.157±0.002
K0	0.70±0.05	0.028±0.002
P0	4.00±0.10	0.157±0.004
P1	4.00±0.10	0.157±0.004
P2	2.00±0.05	0.079±0.002
T	0.20±0.02	0.008±0.001
E	1.75±0.10	0.069±0.004
F	5.50±0.05	0.217±0.002
D0	1.55±0.05	0.061±0.002
D1	0.70±0.10	0.028±0.004
W	12.0±0.2	0.472±0.008
D	178±2.0	7.008±0.079
D3	60	2.362
D2	13±0.5	0.512±0.020
W1	12.4±2.0	0.488±0.079

**ORDERING INFORMATION**

Part Number	Package	Quantity Per Reel (PCS)	Reel Size
JEU7538P	DFN3810-9L	5,000	7 Inch

**MARKING CODE**

Part Number	Marking Code
JEU7538P	<div style="border: 1px solid black; padding: 10px; text-align: center;">  <p><b>7538MP</b> <b>XXXX</b></p> </div> <p>7538MP: Marking code xxxx: Data code</p>

JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.1st version which is made in 6-June-2022. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright ©2022 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.