

Features

- Up to 4 lines protects
- Ultra low junction capacitance (Max value: 0.8pF)
- Peak Pulse Current (8/20 μ s) MAX: 5A
- IEC61000-4-2 (ESD) $\pm$ 15kV (air), $\pm$ 8kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant

Mechanical Characteristics

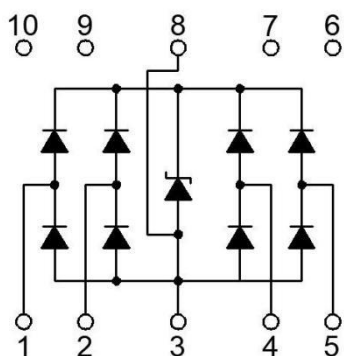
- Package: DFN2510-10L
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :3000pcs

Appearance & Symbol



Package: DFN2510-10L

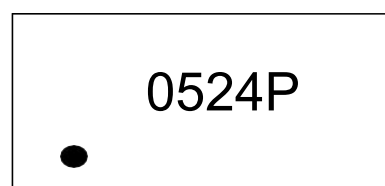
1、2、4、5: I/O
3、8: GND
6、7、9、10: NC



Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation, Digital Cameras
- Peripherals, Audio Players, Industrial Equipment
- Automotive

Marking Information



0524P = Marking Code
● = Pin1 Logo

Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{pp}	75	W
Peak Pulse Current (8/20μs)	I _{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6		10	V
Reverse Leakage Current	I _R	V _{RWM} = 5 V			1	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20μs pulse), any I/O pin to ground			10	V
Clamping Voltage	V _C	I _{PP} = 5A (8 x 20μs pulse), any I/O pin to ground			15	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz, between I/O pins		0.3	0.4	pF
Junction Capacitance	C _J	V _R = 0V, f = 1MHz, any I/O pin to ground			0.8	pF

Typical Characteristics

FIG1: Power rating derating curve

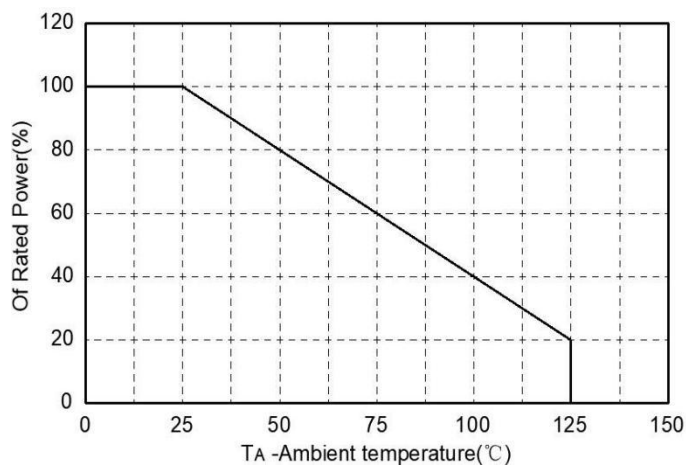


FIG2: pulse Waveform

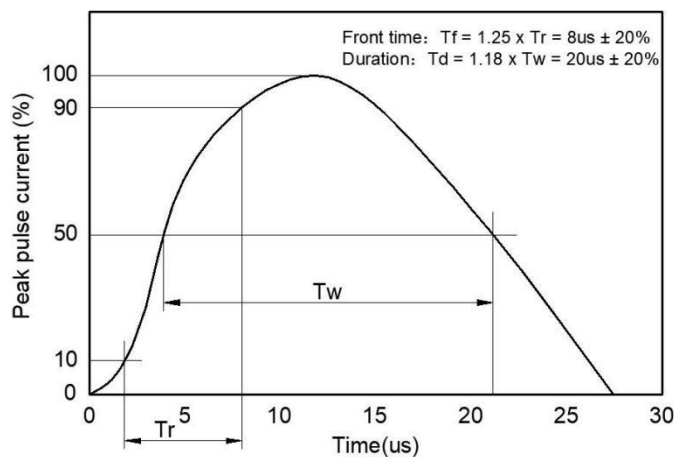


FIG3: Capacitance between terminals characteristics

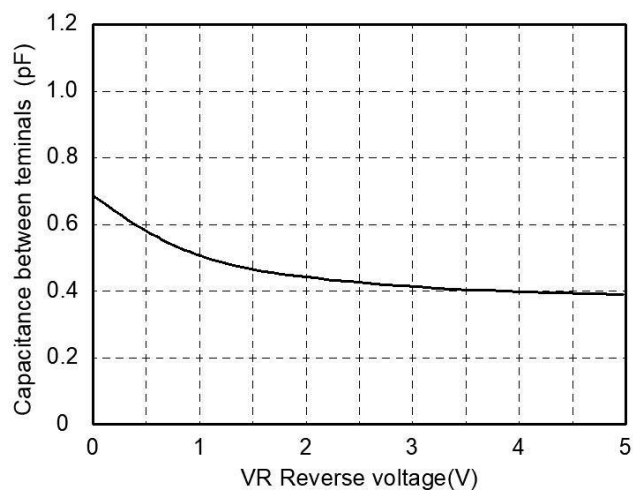
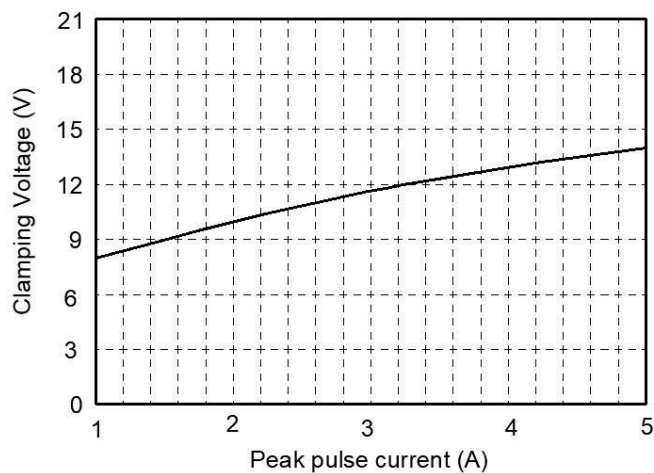
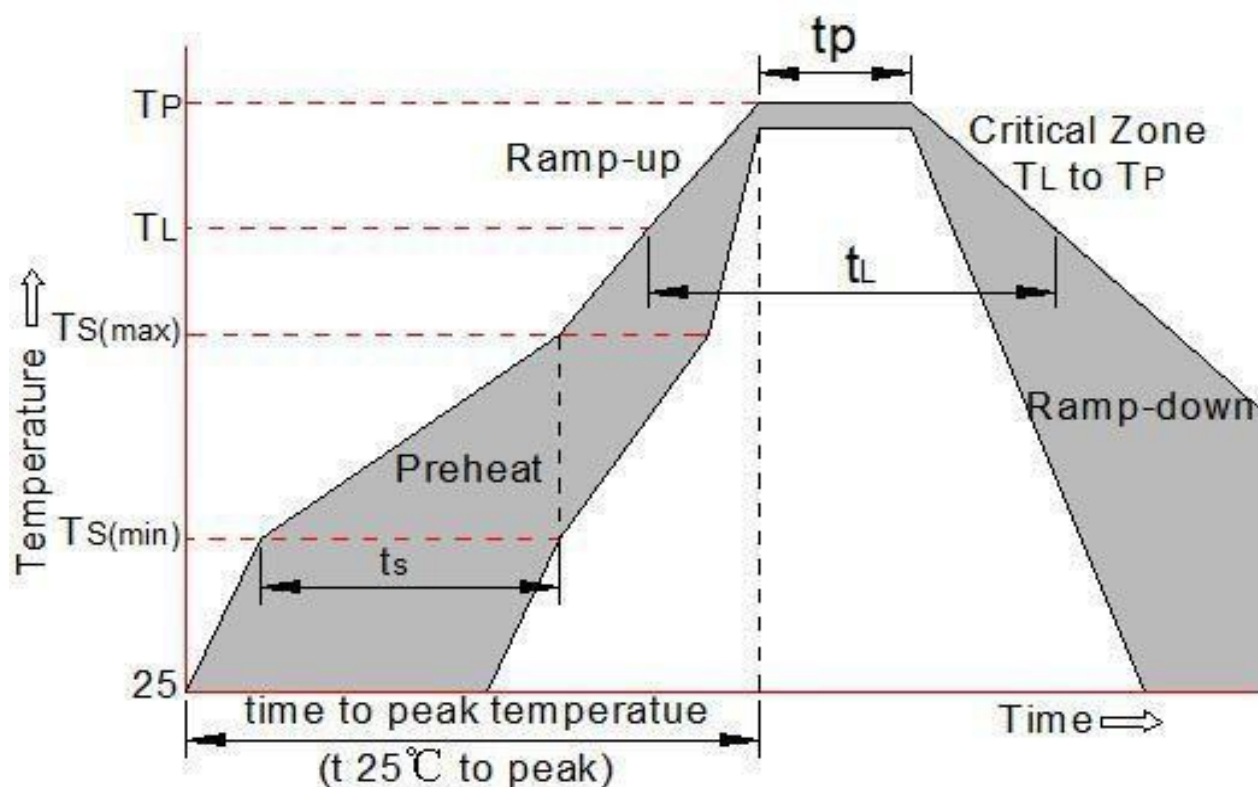


Figure 4: Clamping Voltage vs. Peak Pulse Current

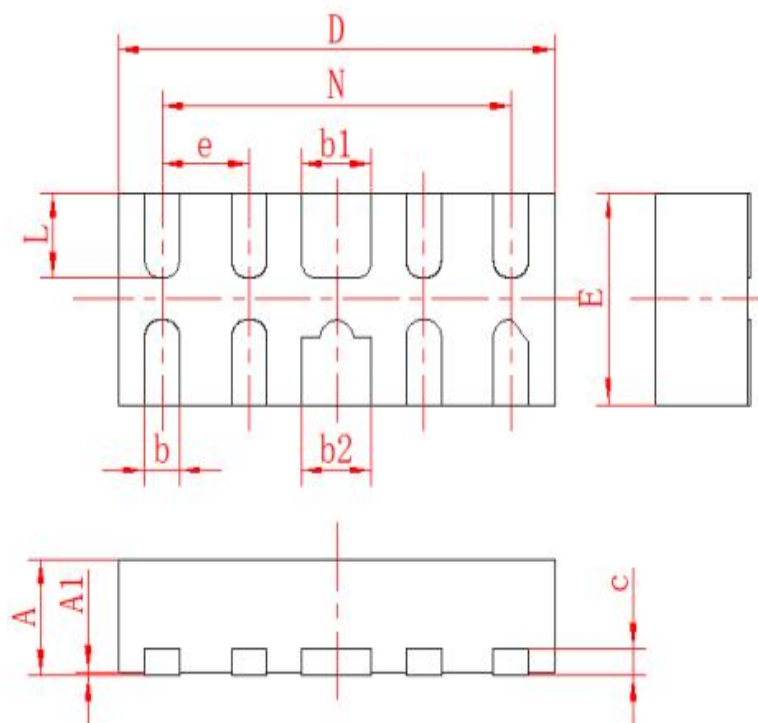


Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

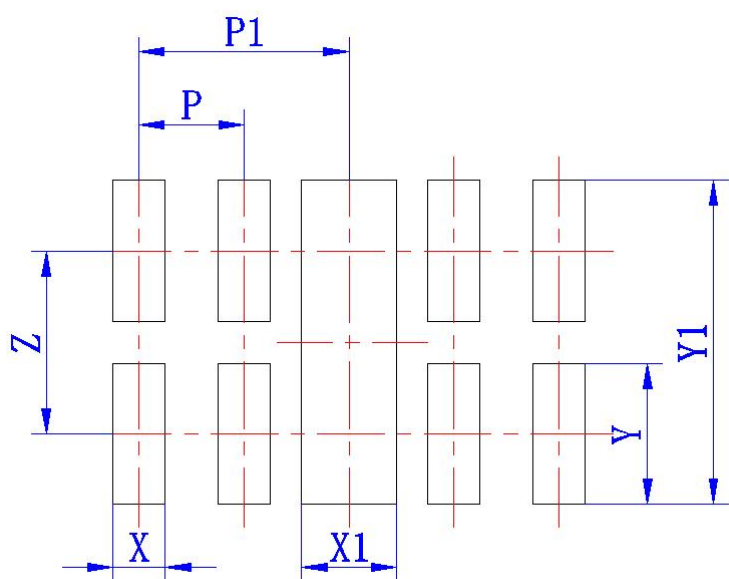


Package mechanical data



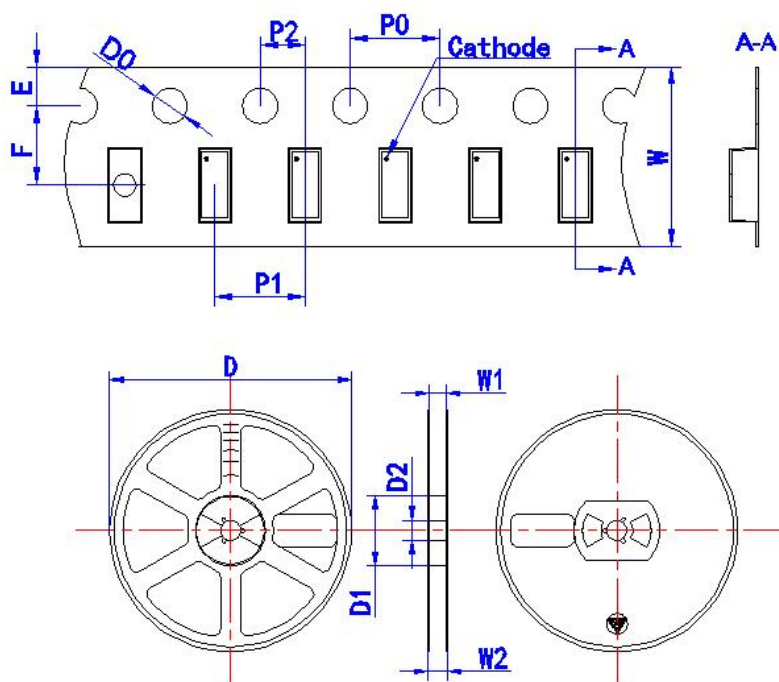
Symbol	Dimension in Millimeters	
	min	max
A	0.5	0.6
A1	0	0.05
D	2.4	2.6
E	0.9	1.1
e	(0.5)	
N	(2.0)	
b	0.15	0.25
b1	0.35	0.45
b2	0.35	0.45
c	(0.127)	
L	0.35	0.45

Suggested Land Pattern



Symbol	Dimension in Millimeters
	typ
X	(0.3)
X1	(0.45)
Y	(0.67)
Y1	(1.55)
Z	(0.87)
P	(0.5)
P1	(1.0)

Tape & reel specification - DFN2510-10L



Symbol	Dimension in Millimeters
Tape	
D0	1.50+0.10/-0.00
E	1.75±0.10
F	3.50±0.10
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
W	8.00+0.3/-0.1
Reel	
D	178.0±2.00
D1	54.40±1.00
D2	13.00±1.00
W1	9.50±1.00
W2	12.30±1.00

Flow (wave) soldering (solder dipping)

Product	Peak Temperature	Dipping Time
Pb device	245°C±5°C	5sec±1sec
Pb-Free device	260°C+0/-5°C	5sec±1sec



This integrated circuit can be damaged by ESD. BYSEMI Corporation recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedure can cause damage. ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.