General Description

The PESDALC10N5VU is designed to protect voltage sensitive components form damage or latch-up due to surge current . Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to surge current protection for board level. Because of its small size and bi-directional design, it is ideal for use in cellular phones and portable applications that require audio line protection.

Features

Miniaturized packaging size suitable for high-density applications

4-Channel uni-directional ESD diode

Standard Capacitance 0.65 pF

Low Clamping Voltage:V_C=15V@I_{PP}=4.5A

Reverse Working (Stand-off) Voltage: 5.0V

Low Leakage current

Response Time is Typically < 1 ns

Applications

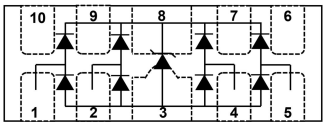
Smartphones, tablet computers

Blu-ray and DVD recorders and players

Video equipment and accessories

.0524P

Schematic & PIN Configuration



DFN2510



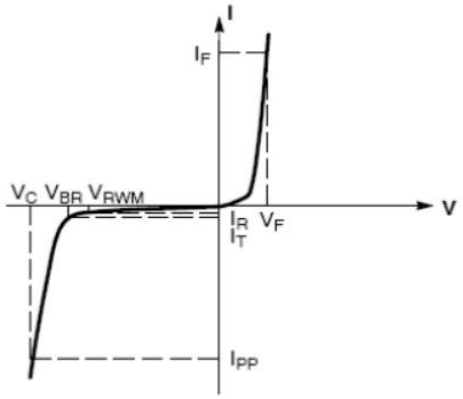
Absolute Maximum Rating

Rating	Symbol	Value	Unit
Peak pulse power (tp = 8/20μs)	P_{PK}	90	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±20	kV
ESD according to IEC61000-4-2 contact discharge		±20	
Operating Temperature Range	T_J	-55~125	℃
Storage temperature	T_{STG}	-55~150	℃

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RW}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Forward Voltage	V_F	I_F=15mA			1.2	V
Reverse Leakage Current	I_R	V_{RWM}=5.0V			100	nA
Clamping Voltage	V_C	I_{PP}=1.0A ,tp=8/20us			10	V
Clamping Voltage	V_C	I_{PP}=4.5A tp=8/20us			15	V
Junction Capacitance	C_J	V_R=0V, f =1MHz, Any I/O to Ground		0.45	0.65	pF
Junction Capacitance	C_J	V_R=0V, f =1MHz, between I/O pins		0.25	0.35	pF

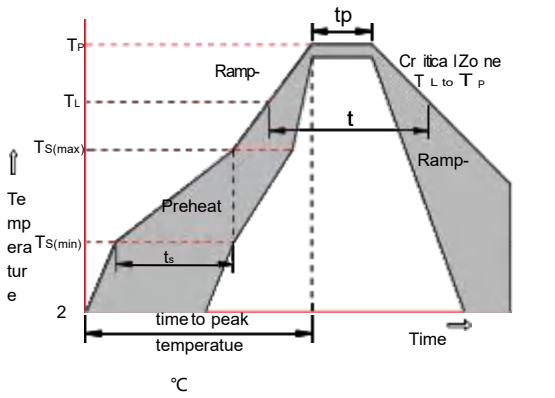
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
P_{PK}	Peak Power Dissipation
C	Max. Capacitance @ V_R = 0 and freq.=1 MHz



Soldering parameters

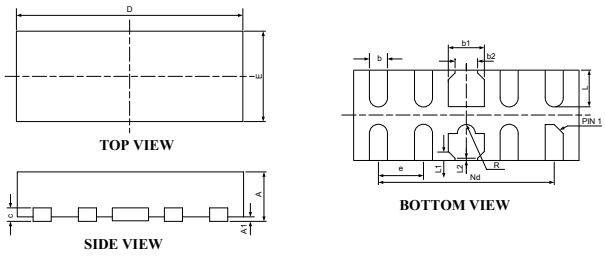
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid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

FIG5: Reflow condition

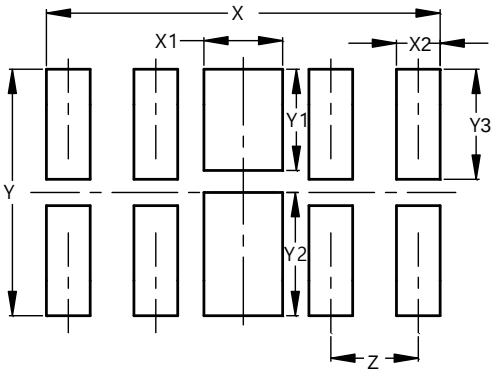


Package Dimensions & Suggested Pad Layout

DFN2510-10L



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.15	0.20	0.25	0.006	0.008	0.010
b1	0.35	0.40	0.45	0.014	0.016	0.018
b2	0.20	0.25	0.30	0.008	0.010	0.012
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.45	2.50	2.55	0.098	0.100	0.102
e	0.50BSC			0.020BSC		
Nd	2.00BSC			0.080BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
L1	0.075REF			0.003REF		
L2	0.050REF			0.002REF		
h	0.08	0.12	0.15	0.003	0.005	0.006
R	0.05	0.10	0.15	0.002	0.004	0.006

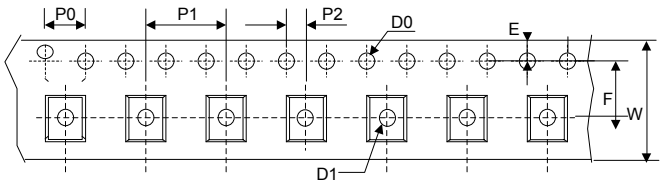


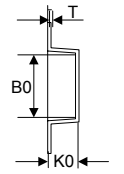
Dimensions	Value (in mm)
Z	0.500
X	2.250
X1	0.450
X2	0.250
Y	1.400
Y1	0.570
Y2	0.700
Y3	0.600

Dimensions in inches and (millimeters)

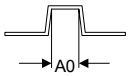
Tape & rell specification

Tape





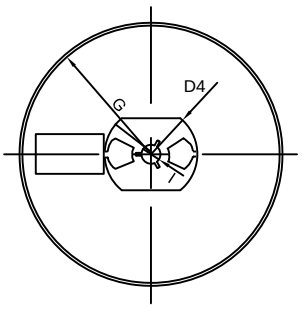
SECTION : B-B

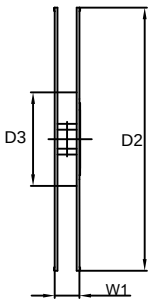


SECTION : A-A

Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	1.55±0.20
D0	1.55±0.20
D1	0.65±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	1.65±0.20
B0	3.00±0.20
K0	1.10±0.20
T	0.20±0.20

7” Reel





D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

Quantity: 3000PCS