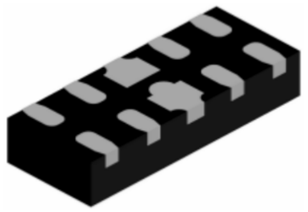
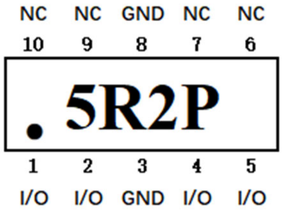
Features

- Ultra low leakage: nA level
- Low clamping voltage
- RoHS Compliant
- REACH & SVHC Compliant
- Halogen Compliant
- DFN2510-10L Package

Package and Marking Diagram

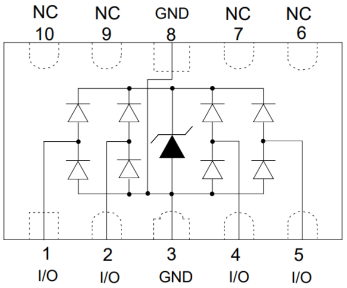


DFN2510-10L



Top view

Circuit Diagram

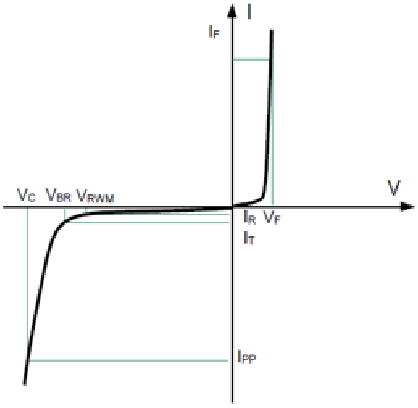


Ordering Information

Part Number	Packaging	Reel Size
ESD7004MUTAG-CN	3000/Tape & Reel	7 inch

Portion Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @I_{PP}



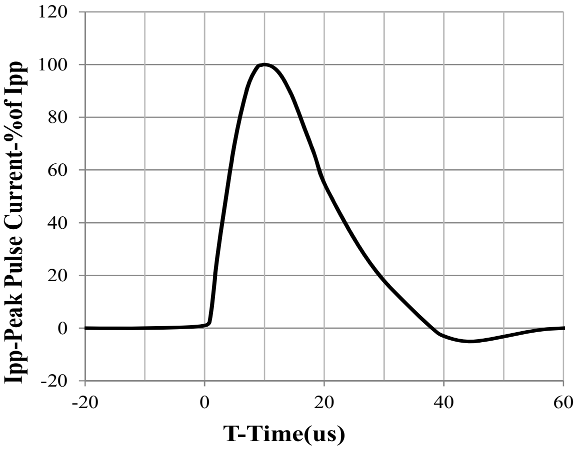
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs pulse)	Ppk	56	W
Peak Pulse Current (8/20μs pulse)	I_{PP}	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±20 ±15	kV
Operating Temperature Range	T_J	−40 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

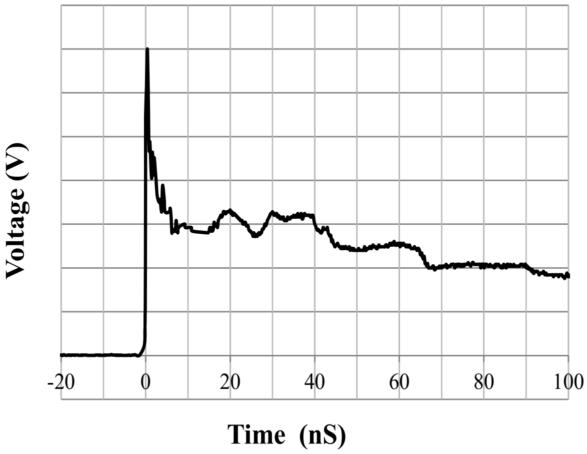
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA，I/O-GND	6	7.3	8.5	V
Breakdown Voltage	V_{BR}	I_T = 1mA，I/O-I/O	7	8.3	9.5	V
Reverse Leakage Current	I_R	V_{RWM} = 5V		<5	100	nA
Clamping Voltage	V_C	I_{PP} = 1A (8/20μs pulse)，I/O-GND		8	12	V
Clamping Voltage	V_C	I_{PP} = 4A (8/20μs pulse)，I/O-GND		11	14	V
Clamping Voltage	V_C	I_{PP} = 1A (8/20μs pulse)，I/O-I/O		10	14	V
Clamping Voltage	V_C	I_{PP} = 4A (8/20μs pulse)，I/O-I/O		19	23	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz，I/O-GND		0.6	0.8	pF
Junction Capacitance	C_J	V_R = 0V, f = 1MHz，I/O-I/O		0.3	0.4	pF

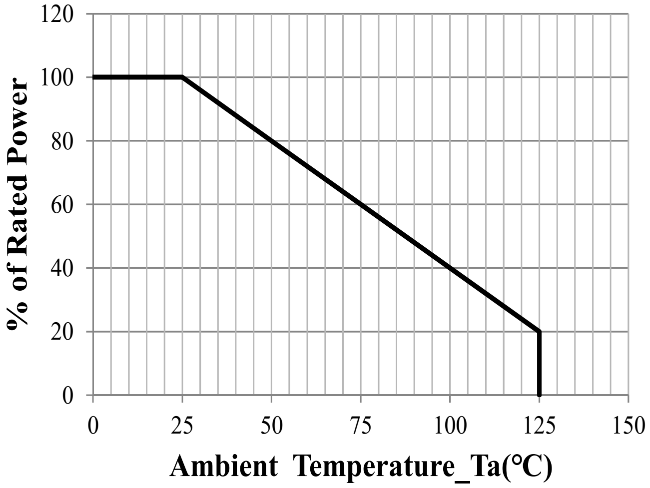
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



8 / 20us Pulse Waveform

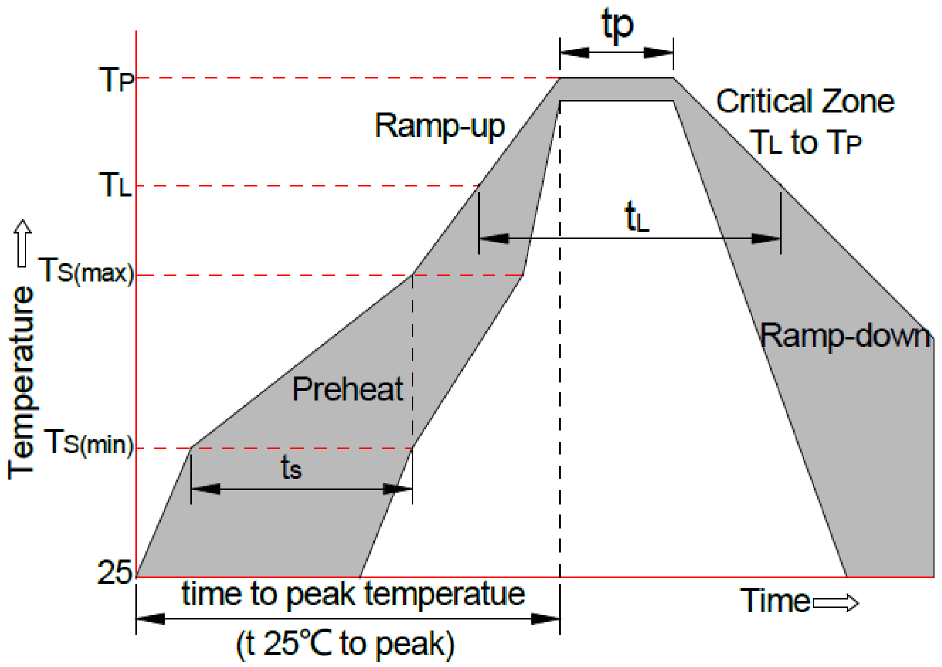


IEC61000−4−2 Pulse Waveform



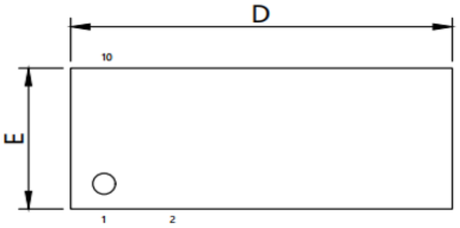
Power Derating Curve

Soldering Parameters



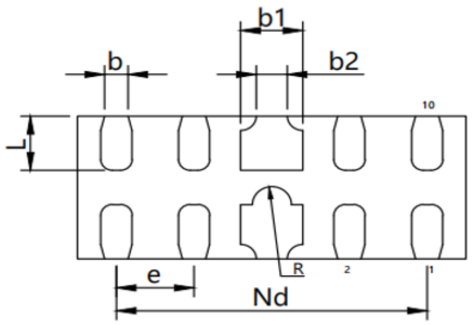
Reflow Conditions		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts (min))	+150°C
	-Temperature Max (Ts (max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs
Average ramp up rate(Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts (max) to TL-Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (TL) (Liquid us)	+217°C
	-Temperature (tL)	60-150 secs
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

DFN2510-10L Package Outline Drawing

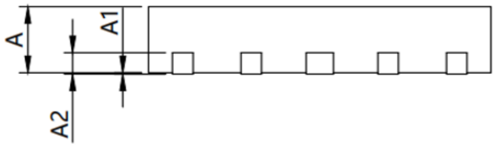


TOP VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
D	2.45	2.50	2.55	0.0965	0.0984	0.1004
E	0.95	1.00	1.05	0.0374	0.0394	0.0413
b1	0.35	0.40	0.45	0.0138	0.0158	0.0177
b2	0.20 REF			0.0079 REF		
b	0.15	0.20	0.25	0.0059	0.0079	0.0098
L	0.33	0.38	0.43	0.0130	0.0150	0.0169
Nd	2.00 BSC			0.0787 BSC		
e	0.50 BSC			0.0197 BSC		
R	0.13 REF			0.0051 REF		
A	0.50	0.55	0.60	0.0197	0.0217	0.0236
A1	0.152 REF			0.0060 REF		
A2	- -	0.02	0.05	- -	0.0008	0.0020

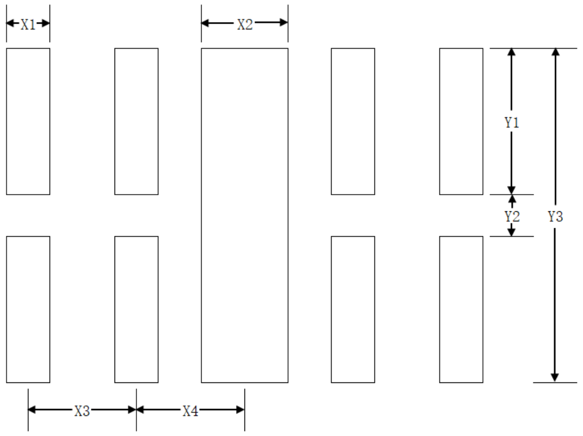


BOTTOM VIEW



SIDE VIEW

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	0.20	0.008
X2	0.40	0.016
X3	0.50	0.020
X4	0.60	0.024
Y1	0.70	0.028
Y2	0.20	0.008
Y3	1.60	0.063

Note:

The land pattern is for reference purposes only.

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