

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
I_{PP}	Peak Current ($t_p=8/20\mu s$)	8.0	A
T_{OP}	Operating Temperature	-40 to 125	°C
T_{STOR}	Storage Temperature	-55 to 150	°C

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

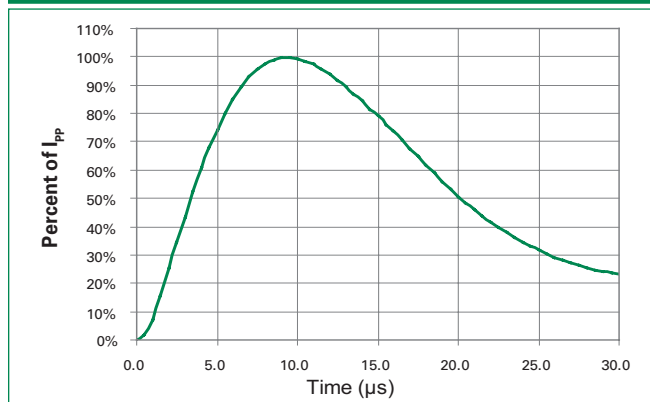
Thermal Information — μ DFN-6L

Parameter	Rating	Units
Thermal Resistance Junction to Ambient	124.0	°C/W
Thermal Resistance Junction to Case	190.0	°C/W
Power Dissipation	1	W

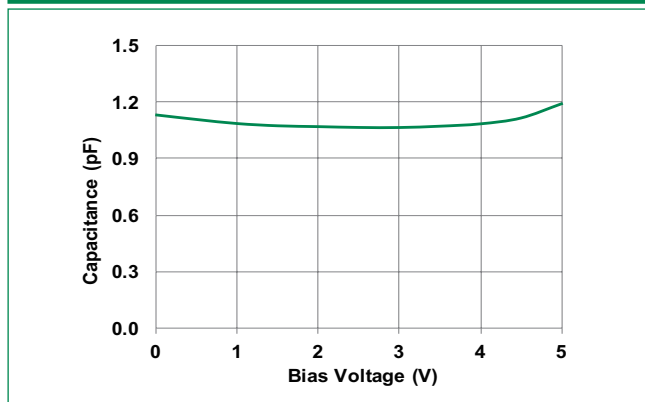
Electrical Characteristics ($T_{OP}=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Reverse Standoff Voltage	V_{RWM}	$I_R \leq 1\mu A$			5.0	V
Reverse Leakage Current	I_{LEAK}	$V_R=5V$, Any I/O to GND			1.0	μA
Clamp Voltage ¹	V_C	$I_{PP}=1A$, $t_p=8/20\mu s$, Fwd		6.6		V
		$I_{PP}=2A$, $t_p=8/20\mu s$, Fwd		6.8		V
Dynamic Resistance ¹	R_{DYN}	$(V_{C2} - V_{C1}) / (I_{PP2} - I_{PP1})$		0.2		Ω
Dynamic Resistance ²	R_{DYN}	TLP, $t_p=100ns$, I/O to GND		0.04		Ω
ESD Withstand Voltage ¹	V_{ESD}	IEC 61000-4-2 (Contact)	± 15			kV
		IEC 61000-4-2 (Air)	± 25			kV
Diode Capacitance ¹	$C_{I/O-GND}$	Reverse Bias=0V, $f=1\text{ MHz}$		1.0		pF
Diode Capacitance ¹	$C_{I/O-I/O}$	Reverse Bias=0V, $f=1\text{ MHz}$		0.5		pF

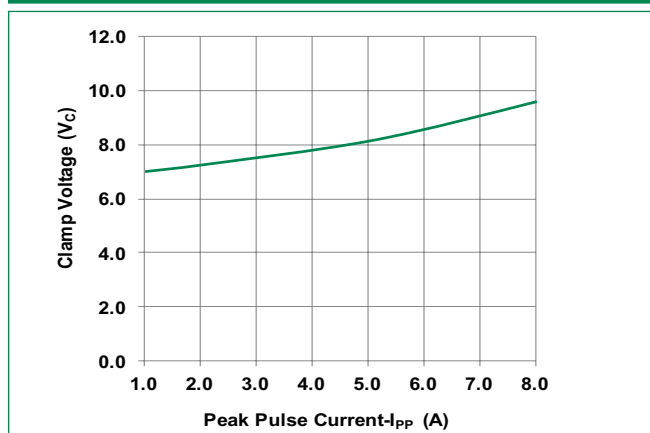
Pulse Waveform



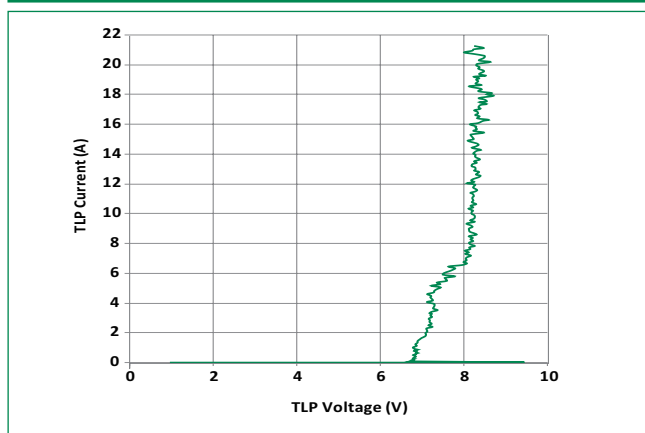
Capacitance vs. Reverse Bias



Clamping Voltage vs. I_{PP}

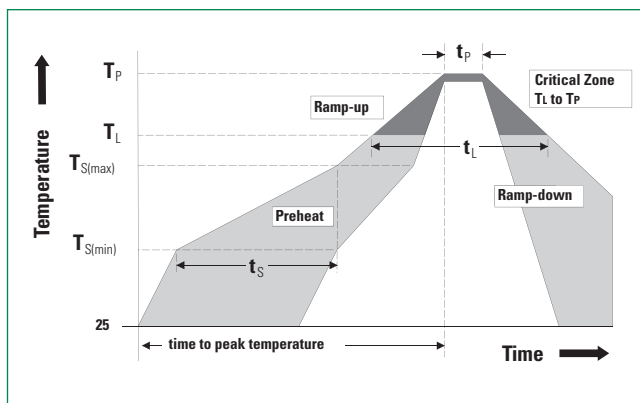


Transmission Line Pulse (TLP)



Soldering Parameters

Reflow Condition		Pb – Free assembly
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 (Liquidus) Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (T_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



Ordering Information

Part Number	Package	Min. Order Qty.
SP3014-02UTG	μDFN-6L	3000

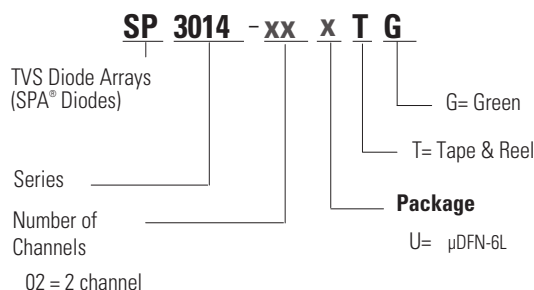
Product Characteristics

Lead Plating	Pre-Plated Frame (μDFN)
Lead Material	Copper Alloy
Lead Coplanarity	0.0004 inches (0.102mm)
Substrate material	Silicon
Body Material	Molded Epoxy
Flammability	UL 94 V-0

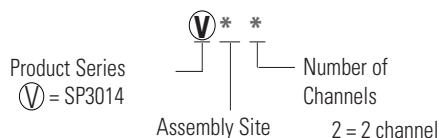
Notes :

1. All dimensions are in millimeters
2. Dimensions include solder plating.
3. Dimensions are exclusive of mold flash & metal burr.
4. Bld is facing up for mold and facing down for trim/form, i.e. reverse trim/form.
5. Package surface matte finish VDI 11-13.

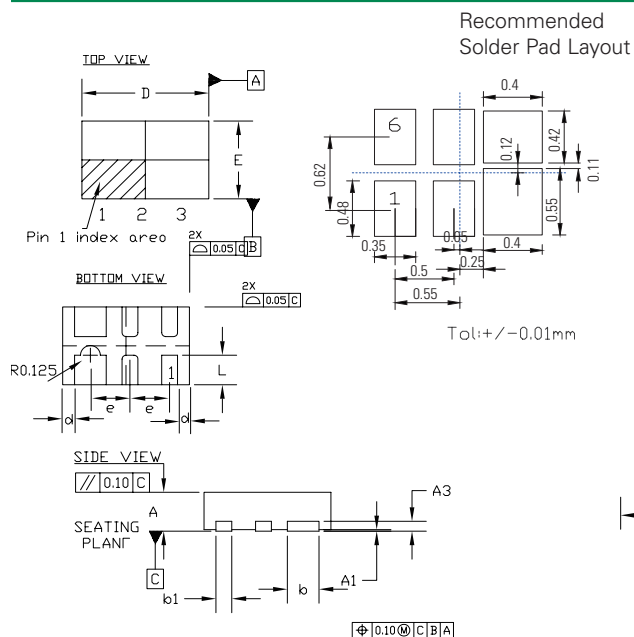
Part Numbering System



Part Marking System

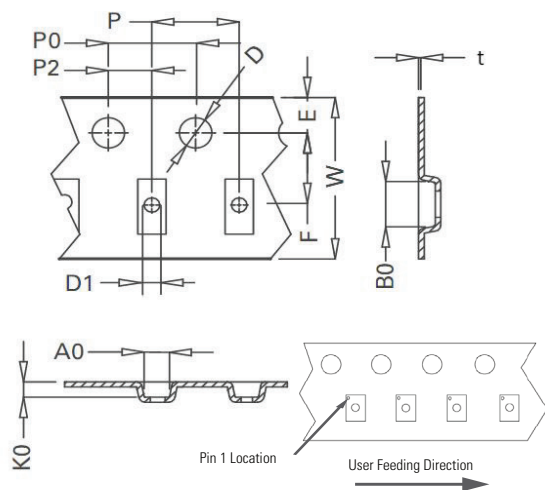


Package Dimensions — μDFN-6L



Package	μDFN-6L			
JEDEC	MO-229			
Pins	6			
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
A3	0.125 REF		0.005 REF	
b	0.35	0.45	0.014	0.018
b1	0.15	0.25	0.006	0.010
D	1.55	1.65	0.062	0.065
d	0.10	0.20	0.004	0.008
E	0.95	1.05	0.038	0.042
e	0.50 REF		0.020 REF	
L	0.33	0.43	0.013	0.017

Embossed Carrier Tape & Reel Specification — μDFN-6L



Symbol	Millimetres		Inches	
	Min	Max	Min	Max
E	1.65	1.85	0.064	0.073
F	3.45	3.55	0.135	0.139
P2	1.95	2.05	0.076	0.081
D	1.40	1.60	0.055	0.063
D1	0.45	0.55	0.017	0.021
P0	3.90	4.10	0.154	0.161
10P0	40.0+/-0.20		1.574+/-0.008	
W	7.90	8.30	0.311	0.319
P0	3.90	4.10	0.154	0.161
A0	1.15	1.25	0.045	0.049
B0	1.75	1.85	0.069	0.073
K0	0.65	0.75	0.026	0.03
t	0.22 max		0.009 max	