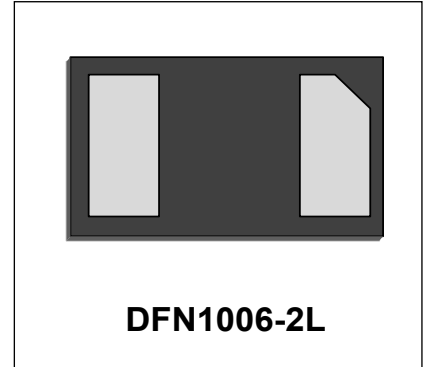




Features

- Small Body Outline Dimensions
- Only protects one I/O
- Low Clamping Voltage
- Low Capacitance
- Working Voltage:5V
- Low Leakage Current



IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 15\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

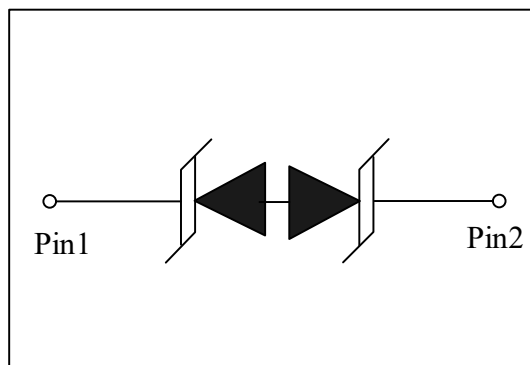
Mechanical Characteristics

- DFN1006-2L package
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS Compliant

Applications

- USB 2.0 and USB 3.0
- HDMI 1.3 and HDMI 1.4
- SATA and ESATA
- DVI
- IEEE 1394
- PCI Express
- Portable Electronics
- Notebooks

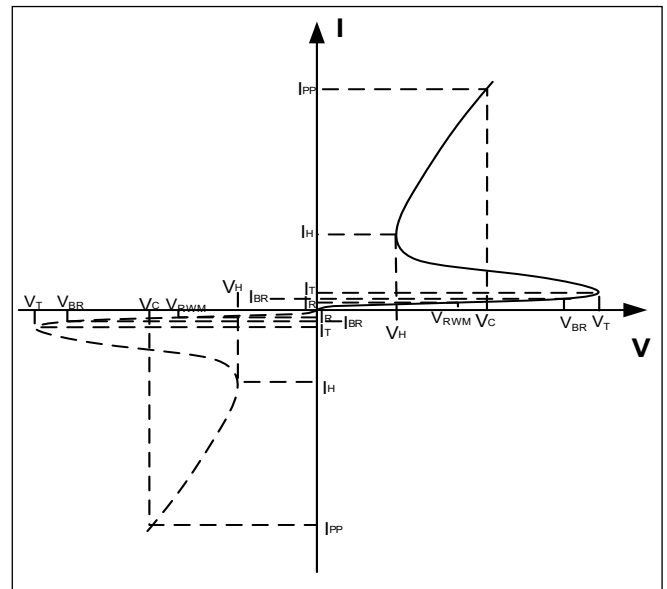
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	32	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	4	A
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_{BR}	Reverse Stand-Off Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
V_C	Test Voltage
I_T	Test Current
V_H	Holding Voltage
I_H	Holding current



Electrical Characteristics

DW05DTF-BL-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25^\circ C$			200	nA
Holding current	I_H	$T = 25^\circ C$	20	50		mA
Clamping Voltage	V_C	$I_{PP} = 4A, t_p = 8/20\mu s$		5	8	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A$ $t_p = 0.2/100ns$		5.4		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A$ $t_p = 0.2/100ns$		9.8		V
Dynamic Resistance ^{1,2}	R_{DYN}	$TLP = 0.2/100ns$		0.37		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		0.9	1.2	pF

Notes : 1、TLP Setting : $t_p = 100ns, t_r = 0.2ns, I_{TLP}$ and V_{TLP} sample window: $t_1 = 70ns$ to $t_2 = 90ns$.

2、Dynamic resistance calculated from $I_{PP} = 4A$ to $I_{PP} = 16A$ using "Best Fit".

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

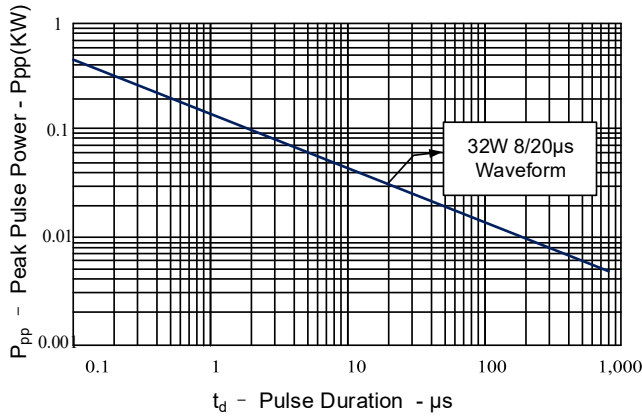


Figure 2: Power Derating Curve

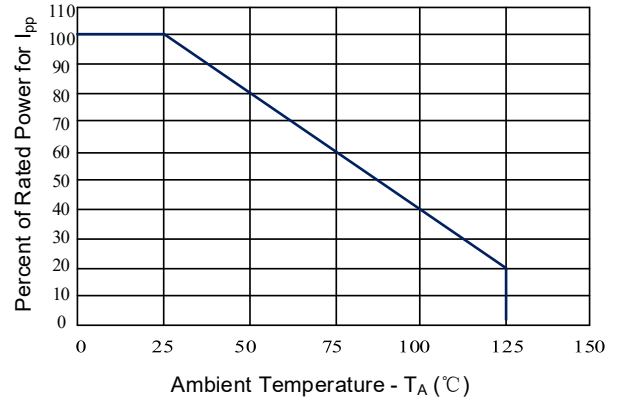


Figure 3: Clamping Voltage vs. Peak Pulse Current

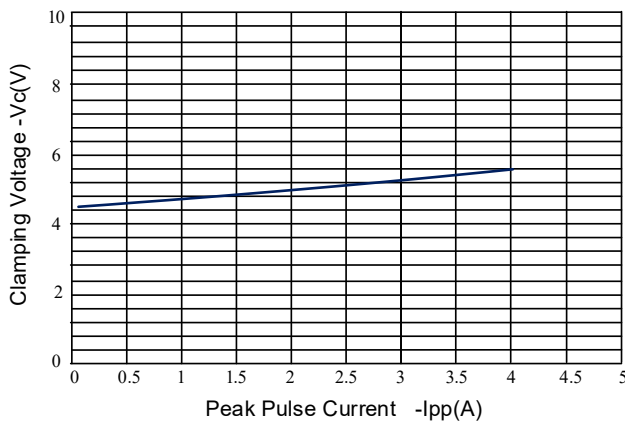


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

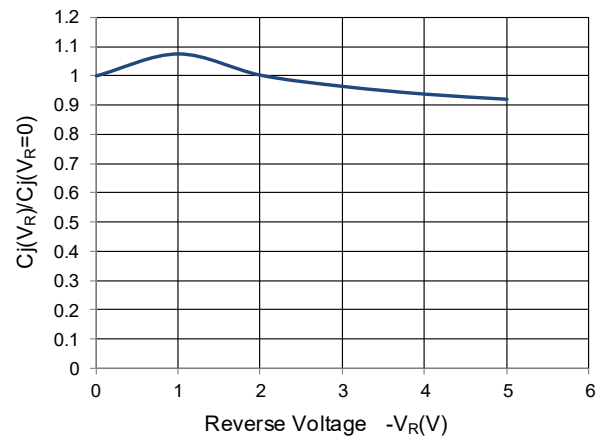


Figure 5: TLP Positive I-V Curve

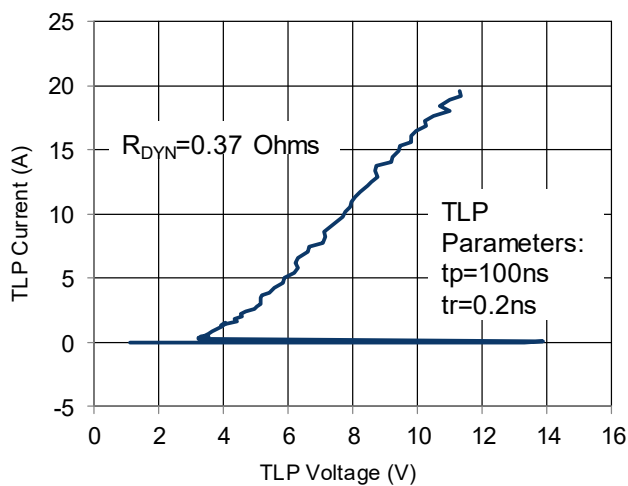
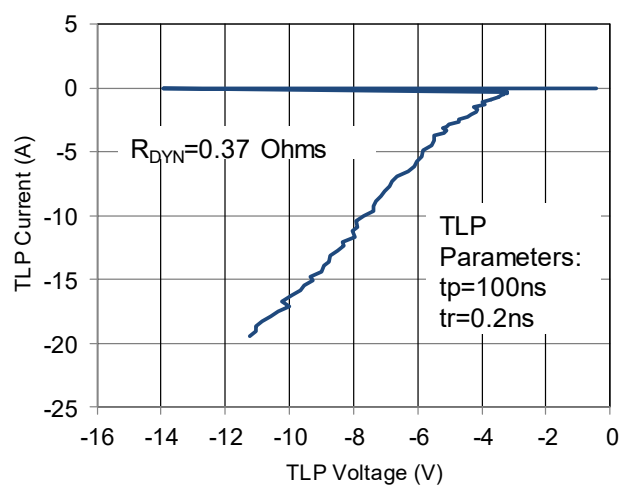


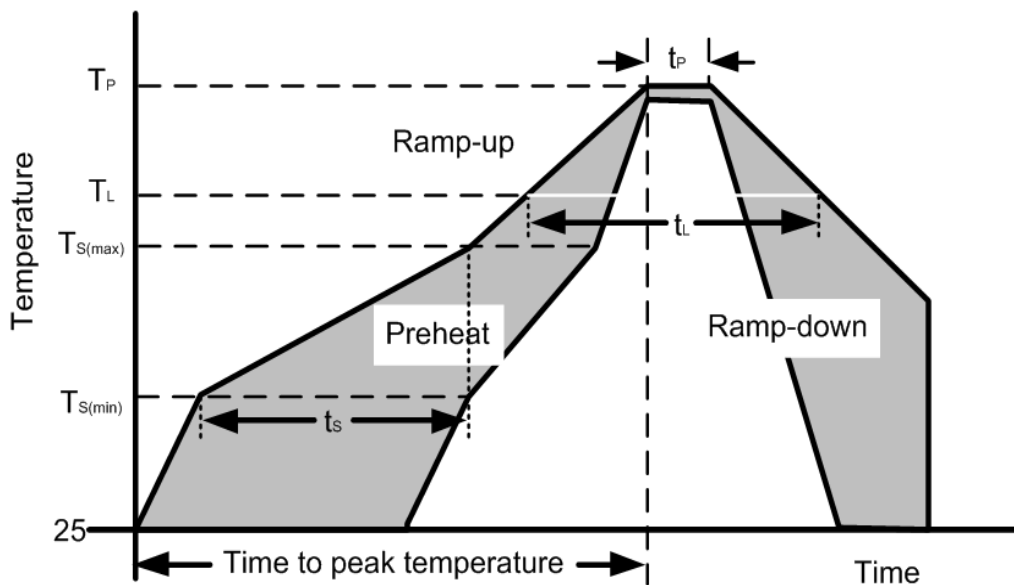
Figure 6: TLP Negative I-V Curve



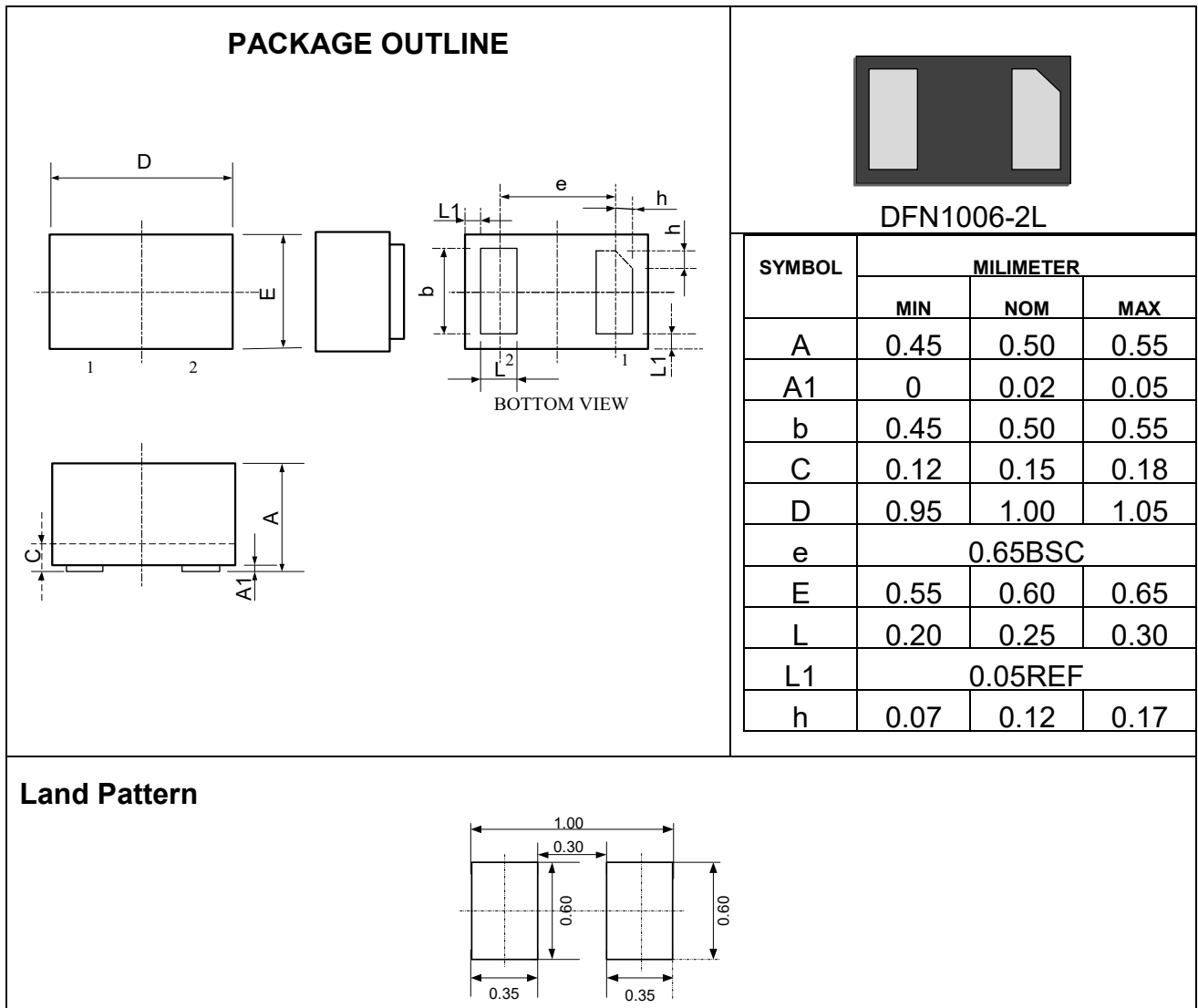


Soldering Parameters

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 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L —Ramp-up Rate		5°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 actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C



Outline Drawing –DFN1006-2L



Marking Codes

Part Number	Marking Code
DW05DTF-BL-S	<div style="border: 1px solid black; padding: 5px; display: inline-block;">T5L</div>

Package Information

Qty: 10k/Reel