



Features

- 36 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Small Body Outline Dimensions
- Protects one I/O or Power Line
- Low Clamping Voltage
- Working Voltage: 5.0V
- Low Leakage Current

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 18kV$ (air), $\pm 15kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)

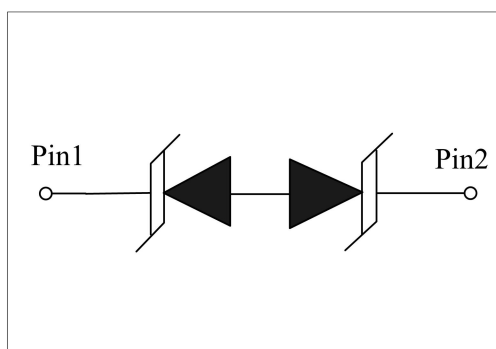
Mechanical Characteristics

- DFN0603-2L package
- Marking : Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant
- MSL1

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Schematic & PIN Configuration

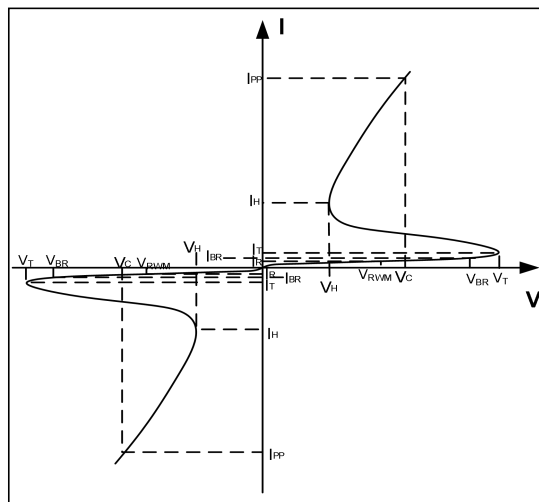


Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	36	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	4.5	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

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Holding Current	I_H	$T=25^{\circ}C$		100		mA
Reverse Leakage Current	I_R	$V_{RWM}=5.0V$, $T=25^{\circ}C$			200	nA
Clamping Voltage	V_C	$I_{PP}=4.5A$, $t_p=8/20\mu s$		5.4	8	V
Dynamic Resistance ^{1,2}	R_{DYN}	$TLP=0.2/100ns$		0.34		Ω
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A$, $t_p = 0.2/100ns$ (TLP)		4.2		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A$, $t_p = 0.2/100ns$ (TLP)		8.3		V
Junction Capacitance	C_j	$V_R = 0V$, $f = 1MHz$		0.6	0.7	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

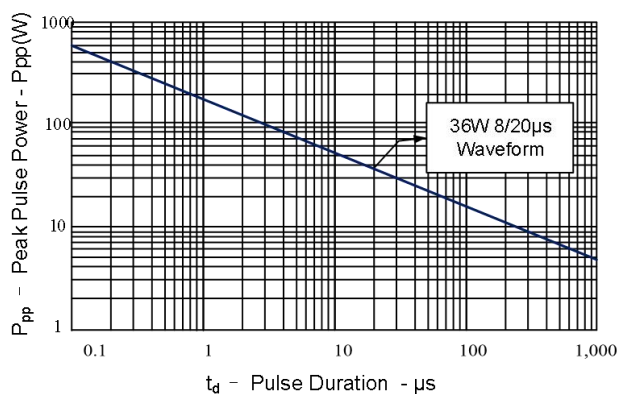


Figure 2: Power Derating Curve

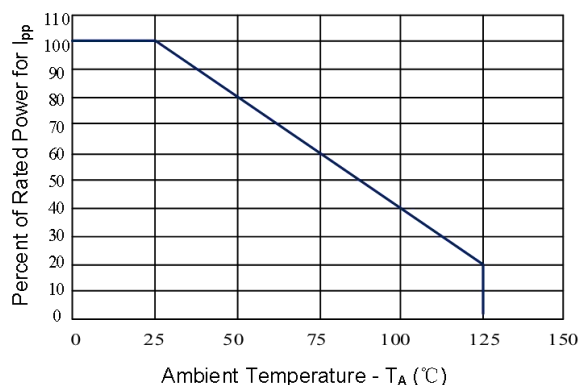


Figure 3: Clamping Voltage vs. Peak Pulse Current

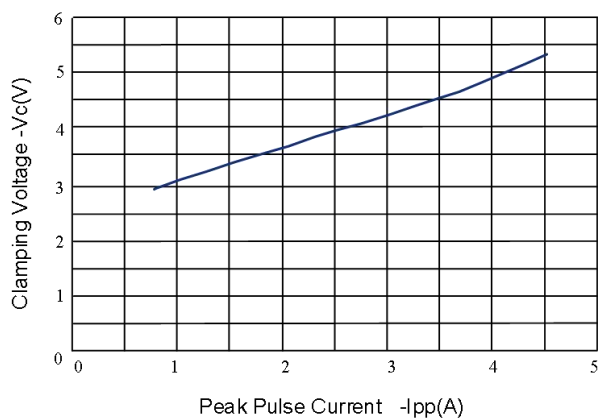


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

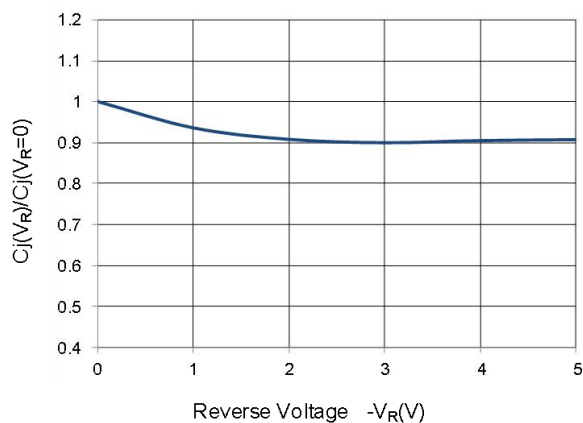


Figure 5: TLP Positive I-V Curve

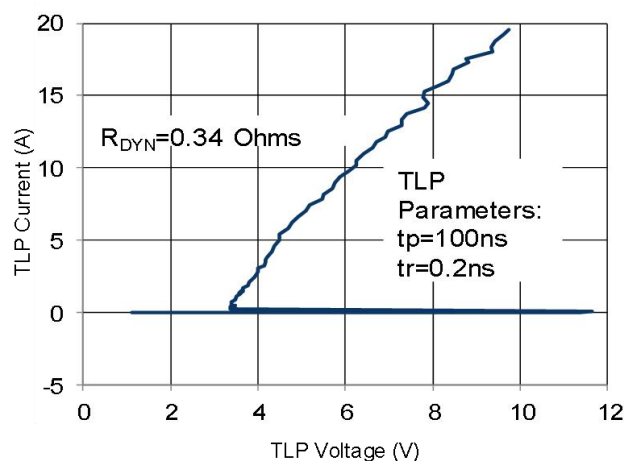
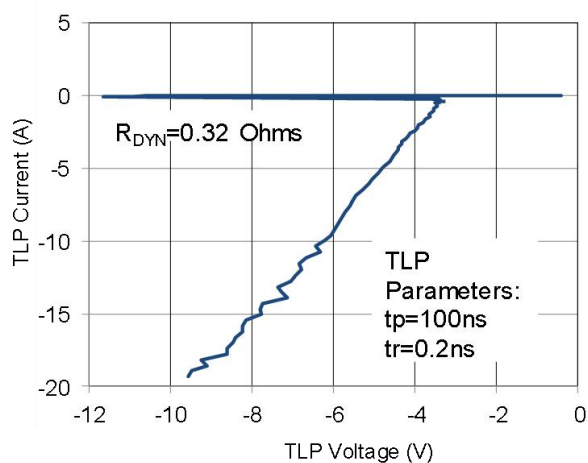
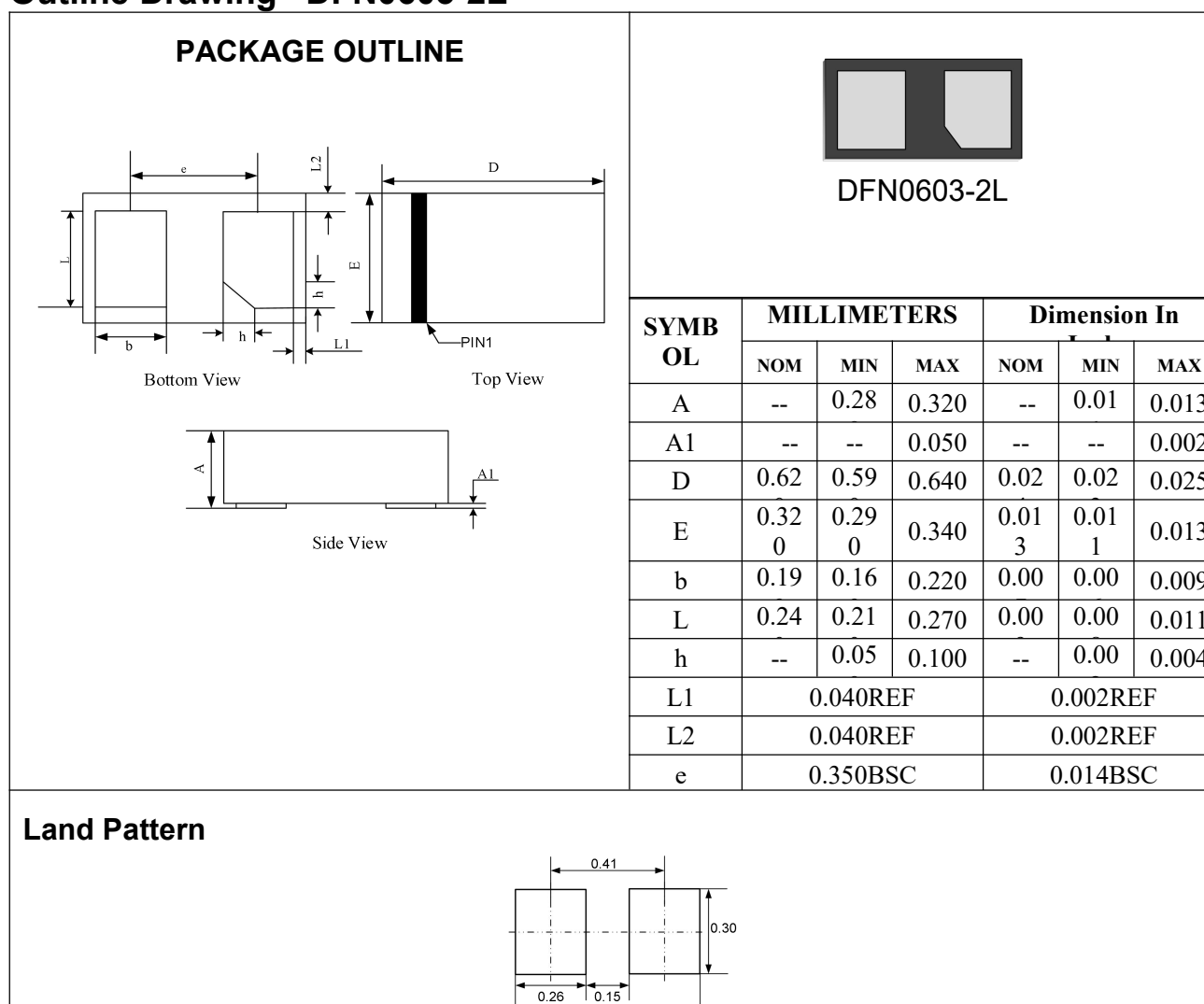


Figure 6: TLP Negative I-V Curve



Outline Drawing –DFN0603-2L



Marking Codes

Part Number	Marking Code
ES05DTUMSBL	 U=Specific Device Code X=Month Code

Package Information

Qty: 15k/Reel

Revision History

NO.	Version	Date	Revision Item	Revision History	Confirm
1	1.0	2020-06-15			