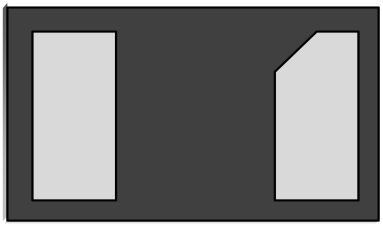
Etek Microelectronics

ES79DFVXM

Transient Voltage Suppressor

Features

- 765 Watts Peak Pulse Power per Line (t_p=8/20μs)
- Small Body Outline Dimensions:
- Protects one I/O or power line
- Working Voltage: 7.9V
- Low Leakage Current



DFN1006-2L

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5 (Lightning) 45A (8/20μs)**

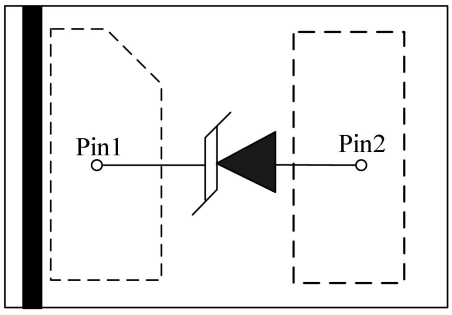
Mechanical Characteristics

- DFN1006-2L package
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant
- MSL1

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

Schematic & PIN Configuration



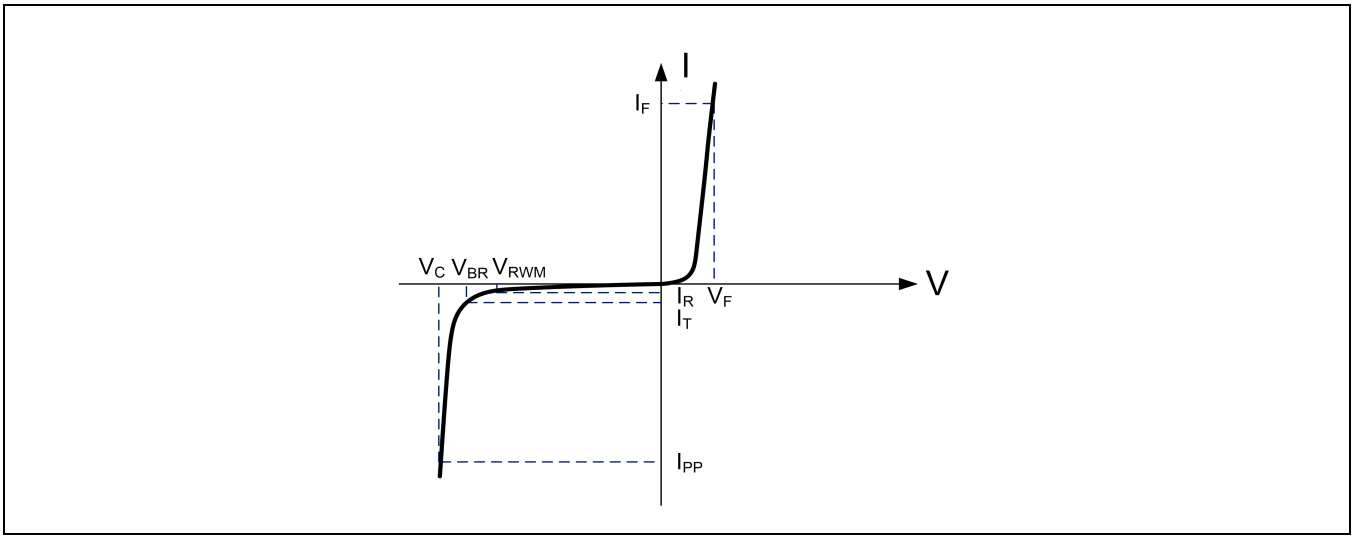
（TOP VIEW）

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power（t_p =8/20μs）	P_{PP}	765	Watts
Peak Pulse Current（t_p =8/20μs）	I_{PP}	45	A
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to + 150	°C

Electrical Parameters (T=25℃)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				7.9	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	8		10	V
Forward Voltage	VF	IF=10mA	0.3		1.5	V
Reverse Leakage Current	I_R	V_{RWM}=7.9V, T=25°C			500	nA
Clamping Voltage[3]	V_C	I_{PP}=45A, t_p=8/20μs		14	17	V
Dynamic Resistance[1,2,3]	R_{DYN}	TLP=0.2/100ns		0.05		Ω
ESD Clamping Voltage[1,3]	V_C	IPP = 4A, tp = 0.2/100ns (TLP)		9.2		V
ESD Clamping Voltage[1,3]	V_C	IPP = 16A, tp = 0.2/100ns (TLP)		9.8		V
Junction Capacitance[3]	C_j	VR = 0V, f = 1MHz		290	350	pF

Note：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”.
3、I_{PP} and V_{CLAMP} and R_{dyn} and C_j is not a FT item. Guaranteed by Design.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

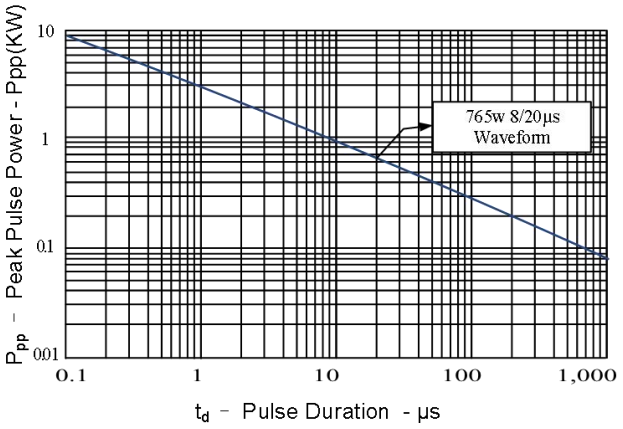


Figure 2: Power Derating Curve

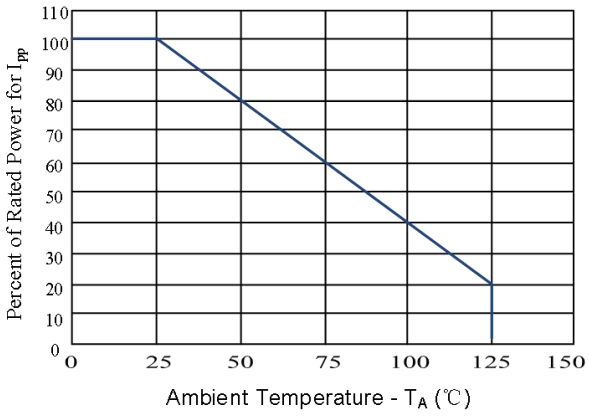


Figure 3: Clamping Voltage vs. Peak Pulse Current

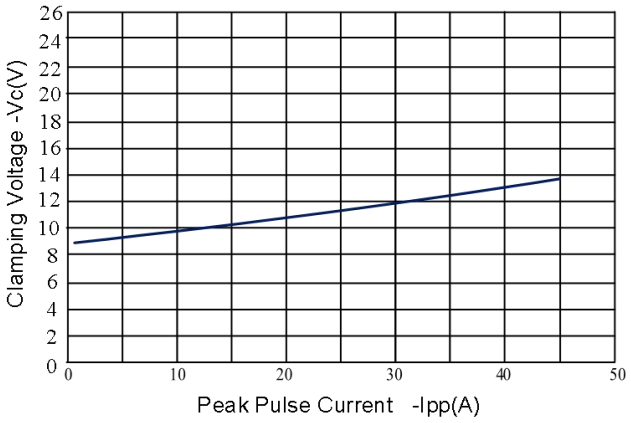


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

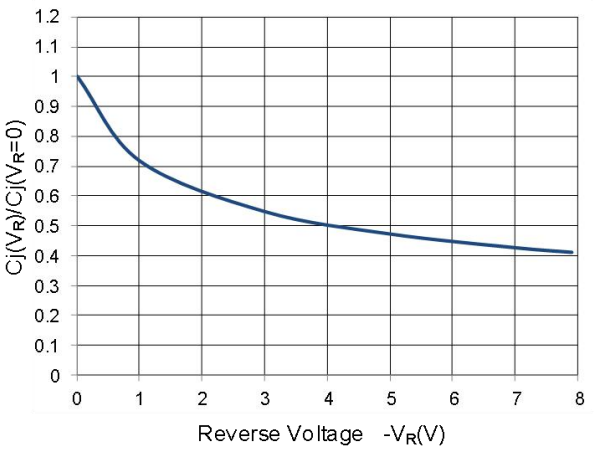


Figure 5: 8/20μs Pulse Waveform

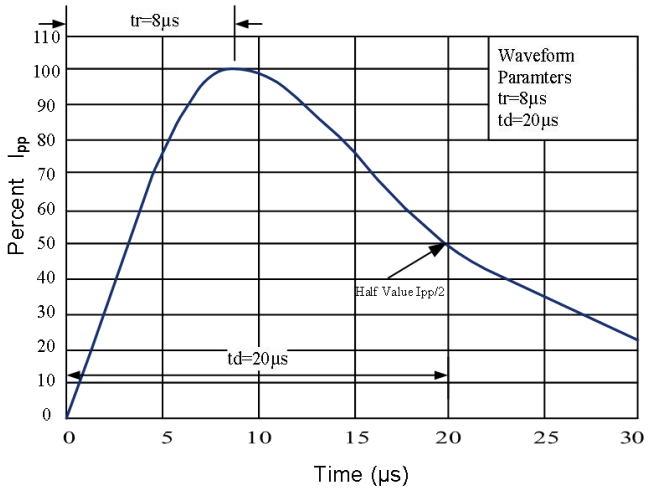
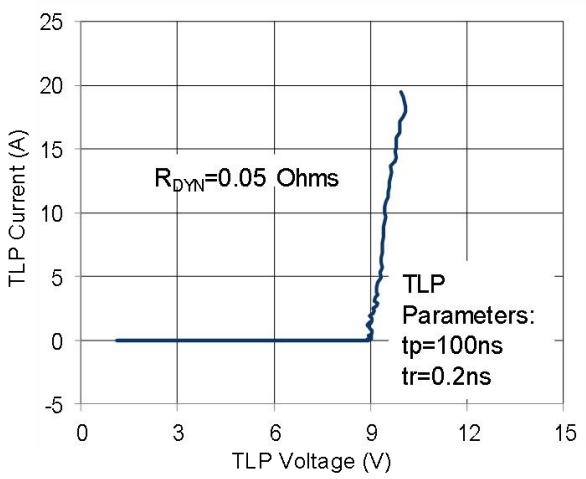
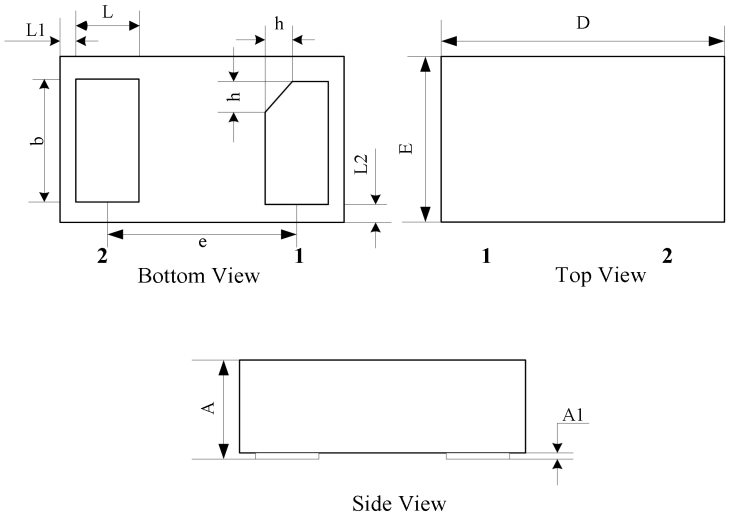


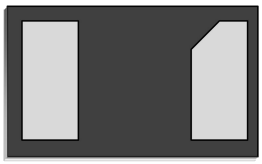
Figure 6: TLP I-V Curve



Outline Drawing –DFN1006-2L

PACKAGE OUTLINE





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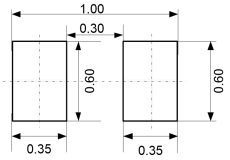
SYMBOL	MILLIMETERS		
	MIN	NOM	MAX
A	0.350	-	0.400
A1	-	-	0.055
b	0.430	0.480	0.530
D	0.950	1.000	1.050
e	0.650BSC		
E	0.550	0.600	0.650
L	0.170	0.220	0.270
L1	0.065REF		
L2	0.060REF		
h	0.075	0.125	0.175

Land Pattern



Marking Codes

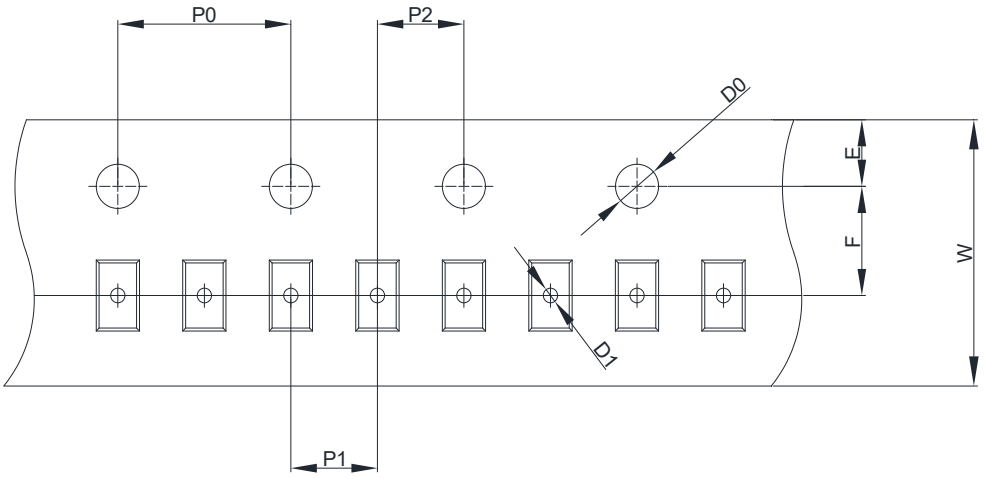
Part Number	ES79DFVXM
Marking Code	1 MVX 2 MV=Specific Device Code X=Tracking No.

Package Information

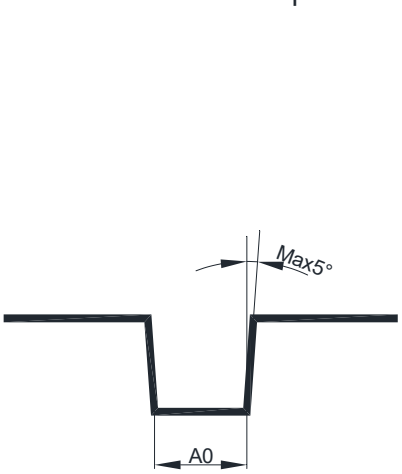
Qty：10k/Reel

Tape Information

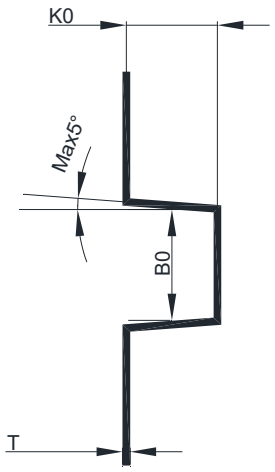
Tape Dimensions



top view

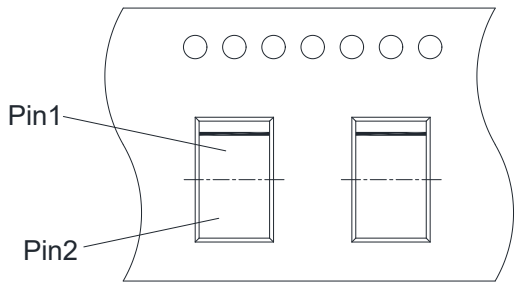


front view



end view

Quadrant Assignments For PIN1 Orientation In Tape



User Direction of Feed

SYMBOL	A0	B0	K0	P0	P1	P2
SPEC	0.69±0.05	1.19±0.05	0.53±0.05	4.00±0.10	2.00±0.10	2.00±0.05
SYMBOL	T	E	F	D0	D1	W
SPEC	0.20±0.03	1.75±0.10	3.50±0.05	1.55±0.05	0.50±0.10	$8.00^{+0.3}_{-0.1}$

Revision History

No.	Version	Date	Revision Item	Request	Function and characteristic checking	Package dimension checking	Typos checking
1	1.0	2019-07-02	Released Version	Qi Shu Kun	Qi Shu Kun	Liu Jia Ying	Liu Jia Ying
2	1.1	2021-11-2	Add Tape Information	Qi Shu Kun	Qi Shu Kun	Liu Jia Ying	Liu Jia Ying
3	1.2	2022-2-18	Update Tape Information	Qi Shu Kun	Qi Shu Kun	Liu Jia Ying	Liu Jia Ying