

Features

- Protection for Vbus operating up to 13.5V
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT)80A (5/50ns)
 - IEC61000-4-5 (Lightning) 160A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: DFN2018-6(2.0X1.8X0.57mm)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020



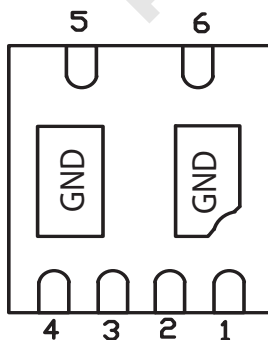
Applications

- Protection for the Vbus Circuit on USB2.0 Fast Charging

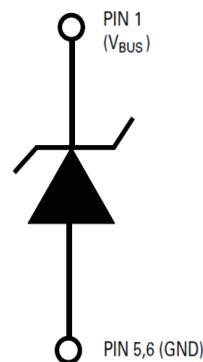
Ordering Information

Part Number	Qty per Reel	Reel Size
TPE1255D6	3000	7"

Dimensions and Pin Configuration



Pin Schematic



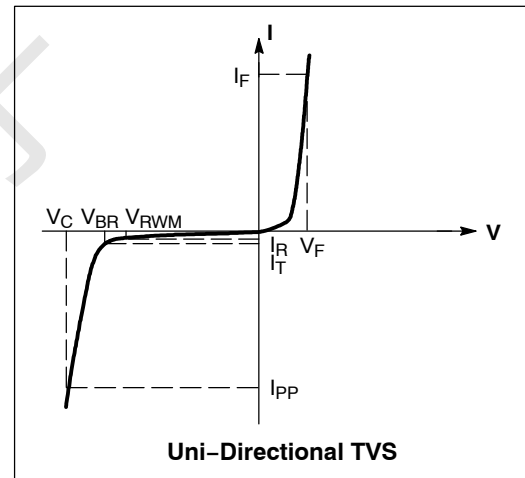
Circuit Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	I _{PP}	160	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

Symbol	Parameter
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Maximum 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
P _{pk}	Peak Power Dissipation
C	Capacitance @ V _R = 0 and f = 1.0 MHz



Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			13.5	V	pin1 to ground
Breakdown Voltage	V _{BR}		14.5	16.5	V	I _T = 1mA, pin1 to ground
Reverse Leakage Current	I _R			1	μA	V _{RWM} = 13.5V, pin1 to ground
Clamping Voltage	V _C		16.5	18	V	I _{PP} =30A (8X20us Pulse) fwd
Clamping Voltage	V _C		28		V	I _{PP} =160A (8X20us Pulse) fwd
Junction Capacitance	C _J		1300	2500	pF	Reverse Bias=0V f=1MHZ

Typical characteristics ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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Fig1. 8/20 μs Pulse Waveform

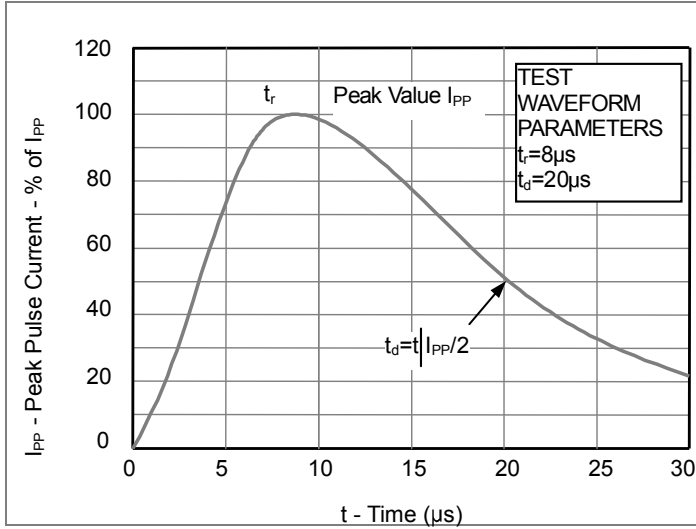


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

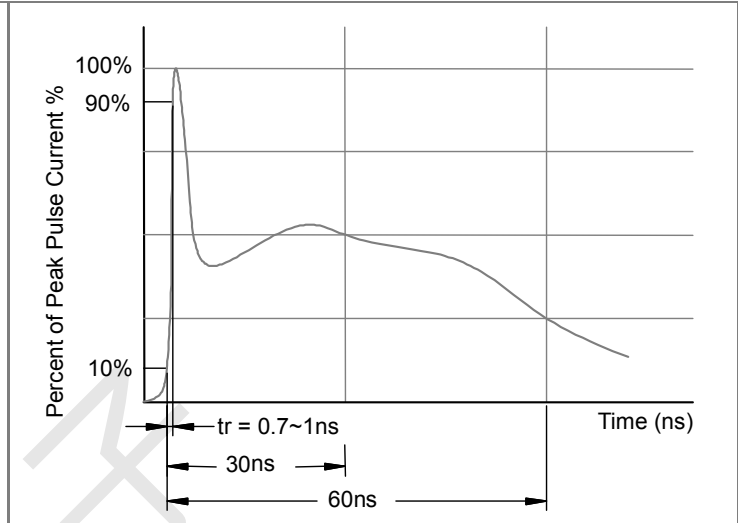
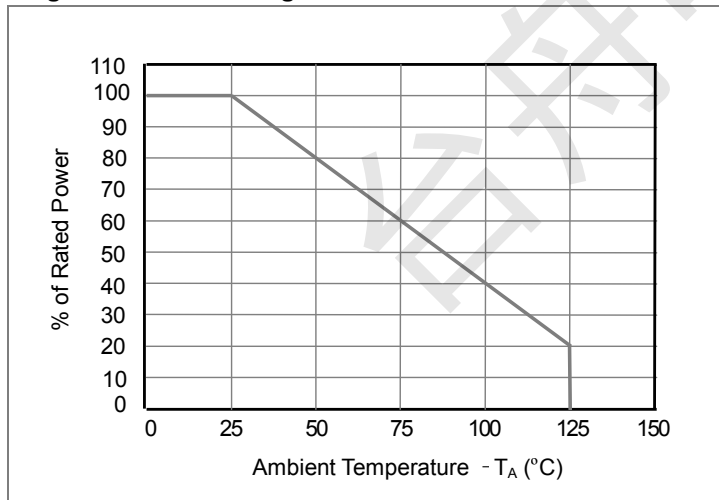
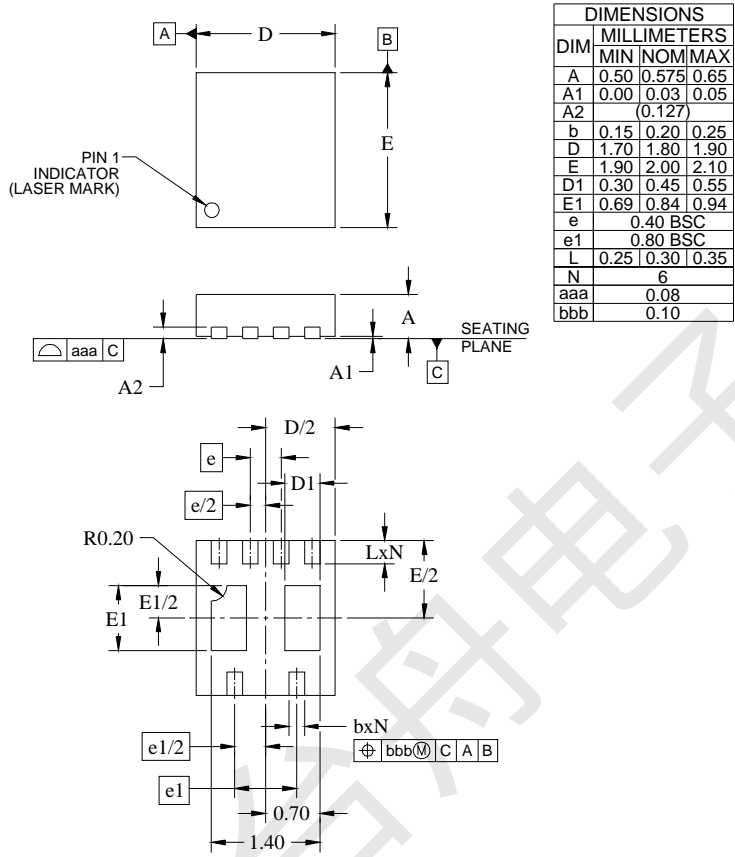


Fig3. Power Derating Curve



Outline Drawing -DFN2018-6



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