

Maximum Ratings - VBUS (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current, VBUS Pin	I _{PP1}	9.5	A	10/1000μs
ESD Protection – Contact Discharge, VBUS Pin	V _{ESD_Contact}	±30	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge, VBUS Pin	V _{ESD_Air}	±30	kV	Standard IEC 61000-4-2

Maximum Ratings – I/Os (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current, I/O Pins	I _{PP}	3.5	A	8/20μs
ESD Protection – Contact Discharge, I/O Pins	V _{ESD_Contact}	±8	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge, I/O Pins	V _{ESD_Air}	±15	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	500	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	250	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

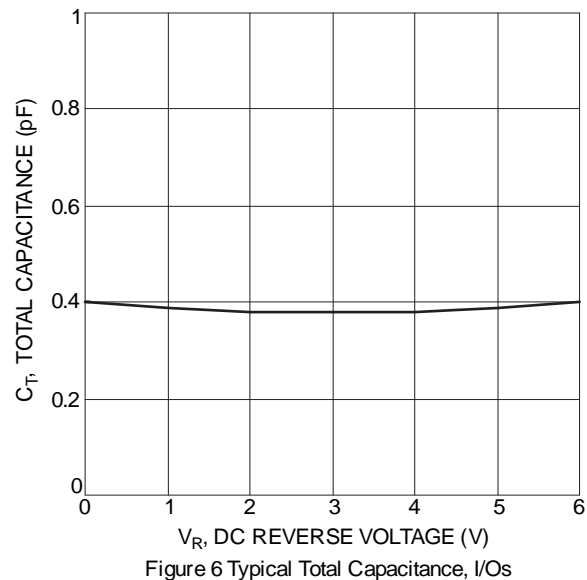
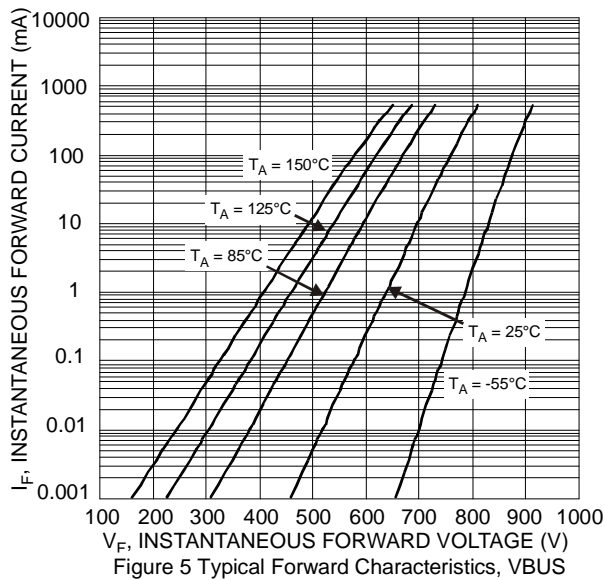
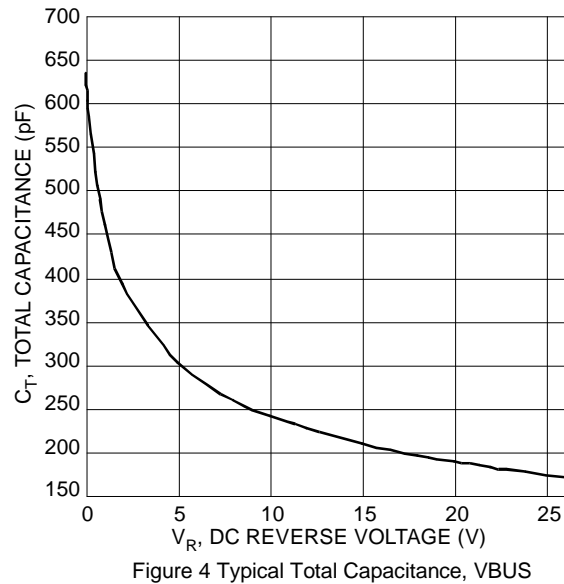
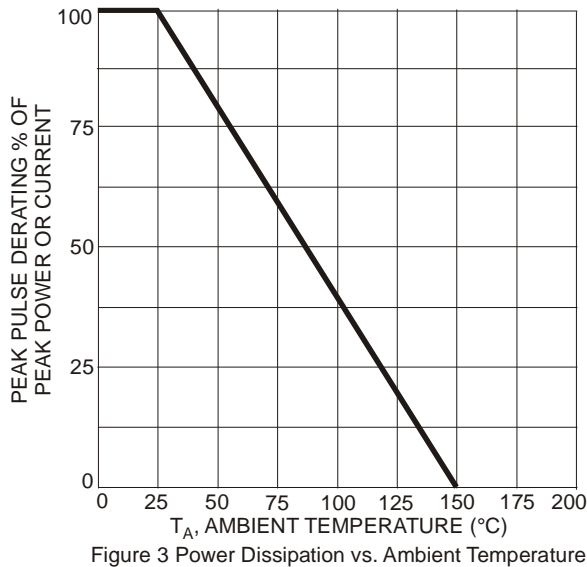
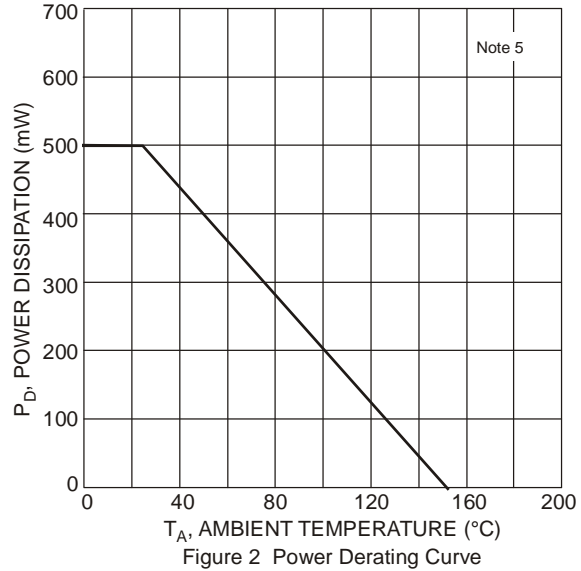
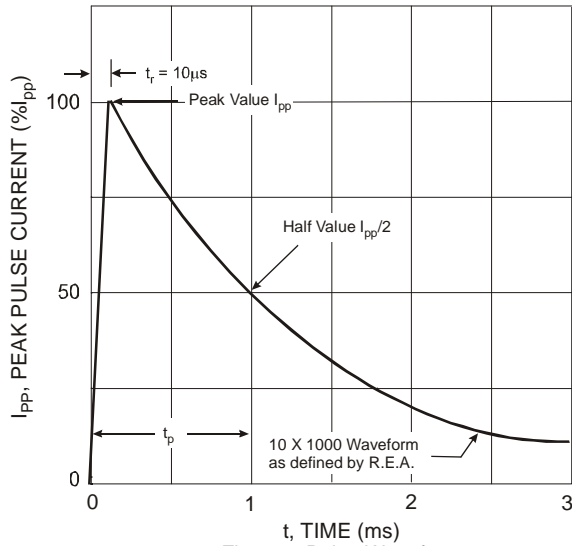
Electrical Characteristics - VBUS (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	26	V	—
Channel Leakage Current (Note 6)	I _{RM}	—	—	50	nA	V _{RWM} = 26V
Forward Voltage	V _F	0.6	0.8	1.2	V	I _R = 10mA
Clamping Voltage	V _{CL}	—	—	40	V	I _{PP} = 9.5A, t _p = 10/1000μs
Breakdown Voltage	V _{BR}	28	—	31.9	V	I _R = 1mA
Channel Input Capacitance	C _T	—	630	—	pF	V _R = 0V, f = 1MHz

Electrical Characteristics – I/Os (@T_A = +25°C unless otherwise specified)

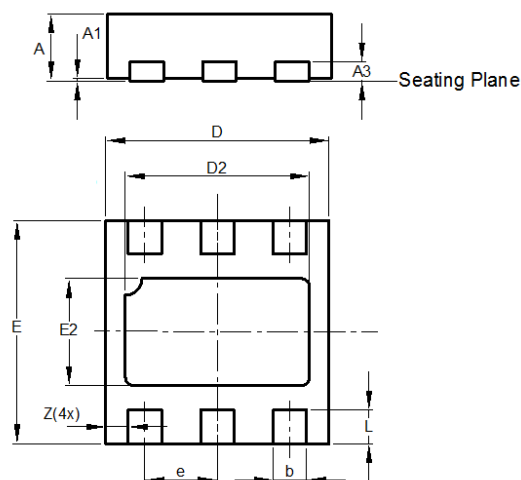
Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Working Voltage	V _{RWM}	—	—	5.5	V	—
Reverse Current (Note 6)	I _R	—	—	50	nA	V _R = 5.5V
Reverse Breakdown Voltage	V _{BR}	6.0	—	9.95	V	I _R = 1mA
Reverse Clamping Voltage, Positive Transients (Note 7)	V _{CL}	—	12	14	V	I _{PP} = 1A, t _p = 8/20μs
Dynamic Resistance	R _{DYN}	—	1.0	—	Ω	I _R = 1A, t _p = 8/20μs
Capacitance (Note 8)	C _T	—	0.4	0.5	pF	V _R = 0V, f = 1MHz, VBUS = 26V

- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
 - Short duration pulse test used to minimize self-heating effect.
 - Clamping voltage value is based on an 8x20μs peak pulse current (I_{pp}) waveform.
 - Measured from any I/O to GND.
 - For information on the impact of Diodes' USB 2.0 compatible ESD protectors on signal integrity including eye diagram plots, please refer to AN77 at the following URL: http://www.diodes.com/destdtools/appnote_dnote.html.



Package Outline Dimensions

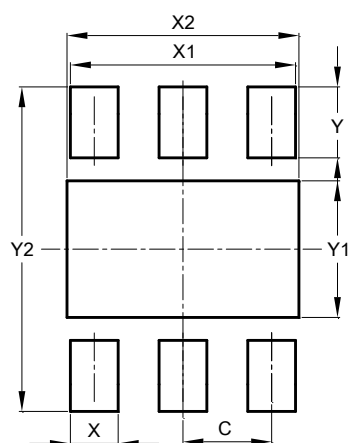
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



U-DFN2020-6 (TYPE C)			
Dim	Min	Max	Typ
A	0.57	0.63	0.60
A1	0.00	0.05	0.02
A3	—	—	0.15
b	0.25	0.35	0.30
D	1.95	2.075	2.00
D2	1.55	1.75	1.65
E	1.95	2.075	2.00
E2	0.86	1.06	0.96
e	—	—	0.65
L	0.25	0.35	0.30
Z	—	—	0.20
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	0.650
X	0.350
X1	1.650
X2	1.700
Y	0.525
Y1	1.010
Y2	2.400

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