

Features

- 5-Line ESD Protection
- Sub-Miniature Package (1.6 × 1.6mm)
- Low Capacitance – 25pF typ @ V_R = 0V
- Provides a High Level of Protection from ESD to IEC61000-4-2
 - ±25kV Contact Discharge
 - ±25kV Air Discharge
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability.**
<https://www.diodes.com/quality/product-definitions/>
- **An automotive-compliant part is available under separate datasheet (DMF05LCFLPAQ)**

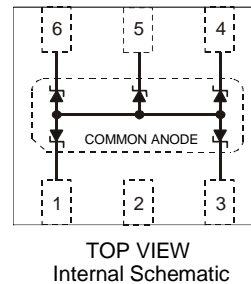
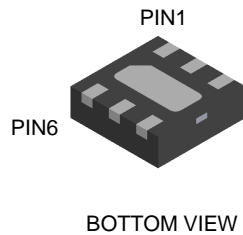
Mechanical Data

- Package: U-DFN1616-6
- Package Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solderable per MIL-STD-202, Method 208 Lead Free Plating (NiPdAu Finish over Copper Leadframe). (e4)
- Polarity: Pin 1 Dot and Center Pad Notch, See Diagram
- Marking Information: See Below
- Ordering Information: See Below
- Weight: 0.004 grams (Approximate)

Applications

- Common I/F
- USB1.1
- SPI/12C
- UART
- Debug I/O

U-DFN1616-6

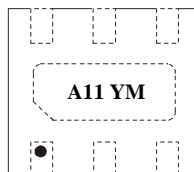


Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
DMF05LCFLPA-7	U-DFN1616-6	3000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



A11 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: K = 2023)
 M = Month (ex: 7 = July)

Date Code Key

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Code	K	L	M	N	P	R	S	T	U	V	W	X

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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

Characteristic		Symbol	Value	Unit
Peak Pulse Current, 8/20μs Waveform, Single Shot, per IEC61000-4-5		I _{PPM}	5	A
Peak Pulse Power, 8/20μs Waveform, Single Shot, per IEC61000-4-5		P _{PP}	70	W
ESD Rating	Human Body Model	ESD	8	kV
	Machine Model		400	V
	IEC61000-4-2 Air Discharge		±25	kV
	IEC61000-4-2 Contact Discharge		±25	kV

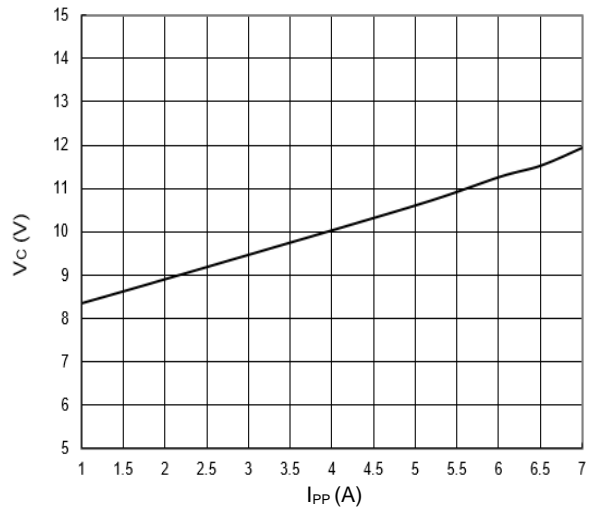
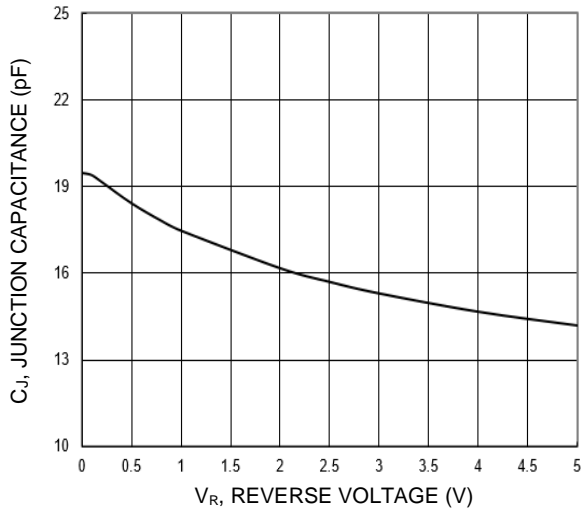
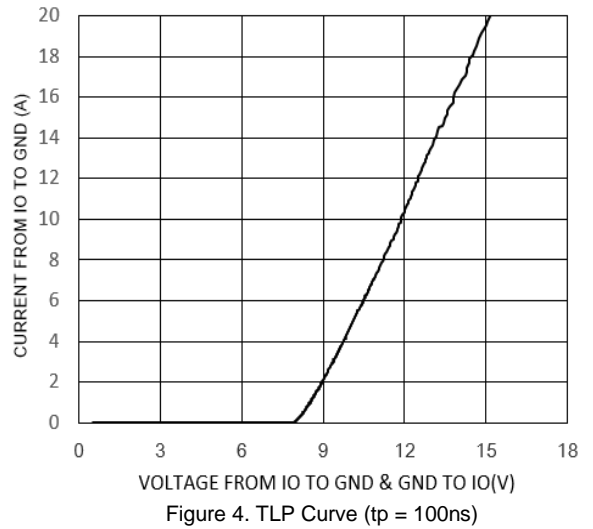
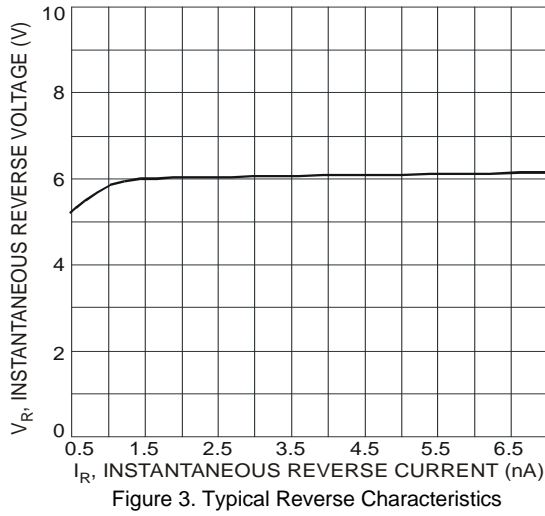
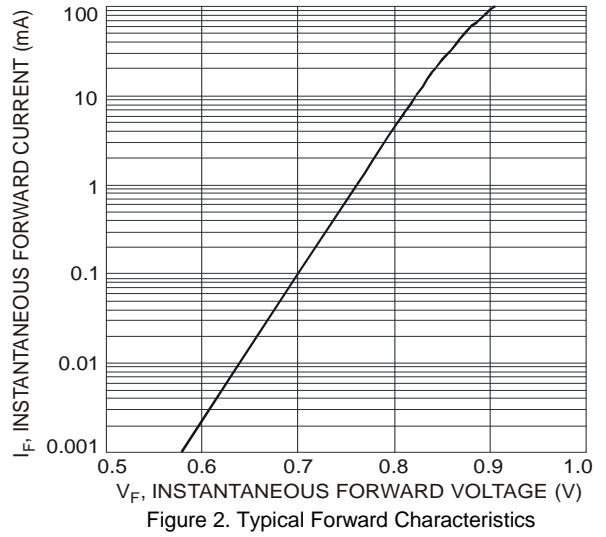
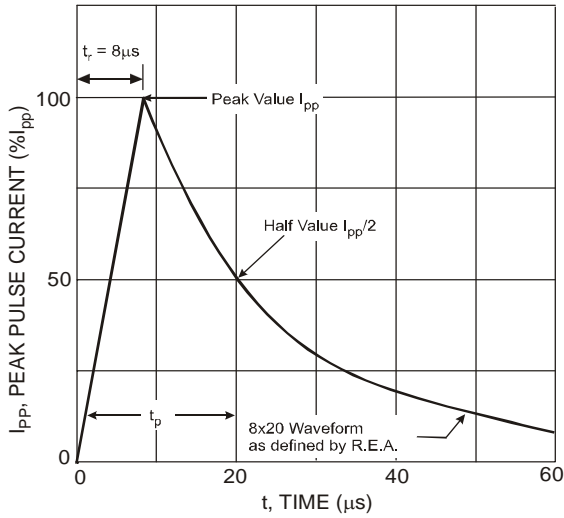
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	280	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Reverse Standoff Voltage V _{RWM} @ I _{RRM} = 1μA	Breakdown Voltage V _{BR} @ I _T		Test Current I _T (mA)	Max Reverse Leakage @ V _{RWM} (Note 6) I _R (μA)	Max Clamping Voltage @ I _{PP} = 1A per IEC61000-4-5 V _C (V)	Max Clamping Voltage @ I _{PP} = 5A per IEC61000-4-5 V _C (V)	Max Total Capacitance V _R = 0V f = 1MHz C _T (pF)	Typical Total Capacitance V _R = 2.5V f = 1MHz C _T (pF)
	Min (V)	Min (V)						
5.0	6	8	1.0	0.1	9.5	12.5	25	16

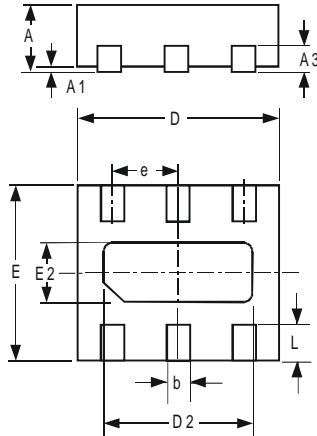
- Notes:
- Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>. Only one switching diode powered on.
 - Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN1616-6

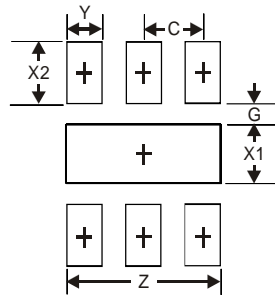


U-DFN1616-6			
Dim	Min	Max	Typ
A	0.545	0.605	0.575
A1	0	0.05	0.02
A3	-	-	0.13
b	0.20	0.30	0.25
D	1.55	1.675	1.60
D2	1.10	1.30	1.20
E	1.55	1.675	1.60
e	-	-	0.50
E2	0.30	0.50	0.40
L	0.275	0.375	0.325
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN1616-6



Dimensions	Value (in mm)
Z	1.3
G	0.175
X1	0.50
X2	0.525
Y	0.30
C	0.50

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