

## Features

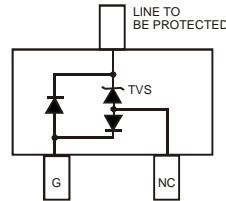
- 300 Watts Peak Pulse Power ( $t_p = 8 \times 20 \mu s$ )
- Transient Protection for data, signal, and VCC bus to IEC61000-4-2 level 4 (ESD) and IEC 61000-4-4 (EFT)
- Low Capacitance, typ.  $< 2 \text{ pF}$
- Low Leakage Current
- Unidirectional Configuration
- Surface Mount Package Ideally Suited for Automated Insertion
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 4 and 5)**



Top View

## Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)



Device Schematic

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8 \times 20 \mu s$ )	$P_{pk}$	300	W

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	286	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Reverse Standoff Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Reverse Leakage @ $V_{RWM}$	Max. Clamping Voltage @ $I_{pp} = 1 \text{ A}$ (Note 3)	Max. Peak Pulse Current (Note 2)	Typical Total Capacitance
	$V_{RWM} \text{ (V)}$	Min (V)	Max (V)	$I_T \text{ (mA)}$	$I_R \text{ (}\mu\text{A)}$	$V_C \text{ (V)}$	(A)
5	6.0	—	1.0	20	11.0	17	1.6

- Notes:
1.  $V_R = 0 \text{ V}$ ,  $f = 1 \text{ MHz}$ .
  2.  $t_p = 8 \times 20 \mu s$ .
  3. Clamping voltage value is based on an  $8 \times 20 \mu s$  peak pulse current ( $I_{pp}$ ) waveform.
  4. No purposefully added lead. Halogen and Antimony Free.
  5. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or  $\text{Sb}_2\text{O}_3$  Fire Retardants.

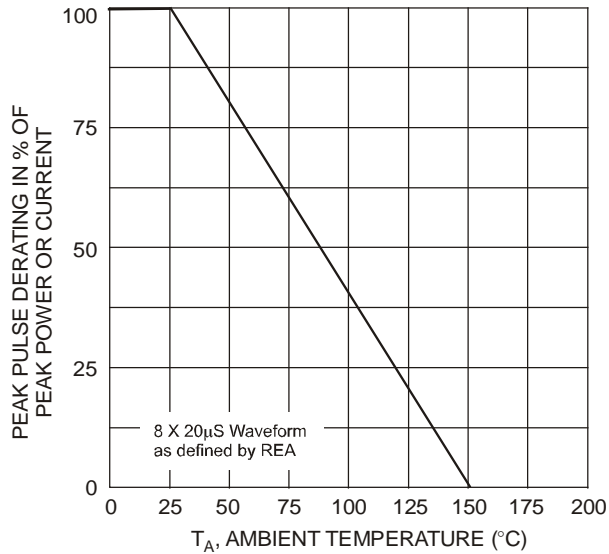


Fig. 1 Pulse Derating Curve

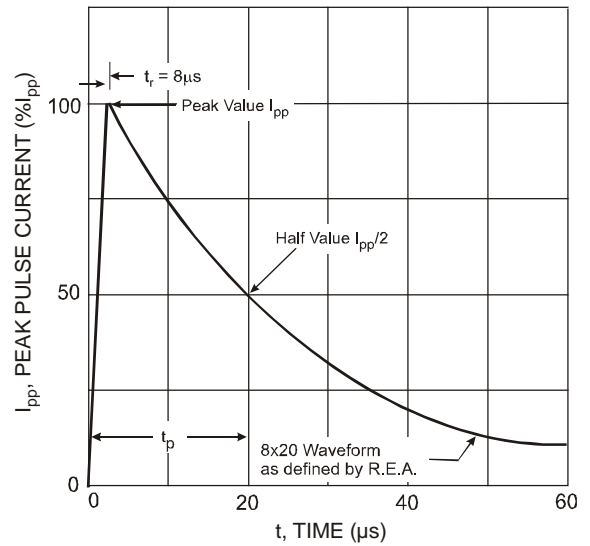


Fig. 2 Pulse Waveform

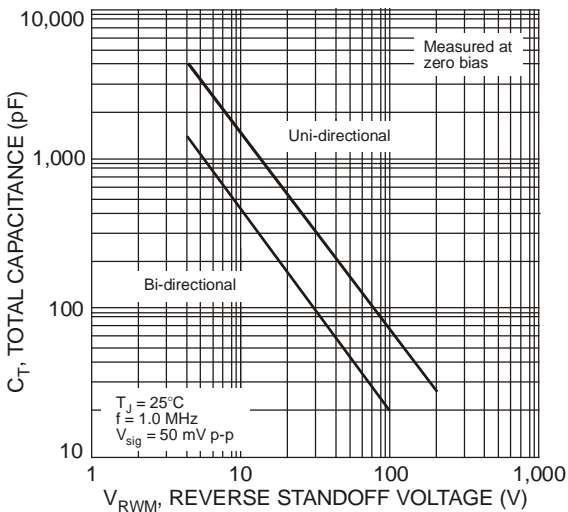


Fig. 3 Typical Total Capacitance vs. Reverse Standoff Voltage

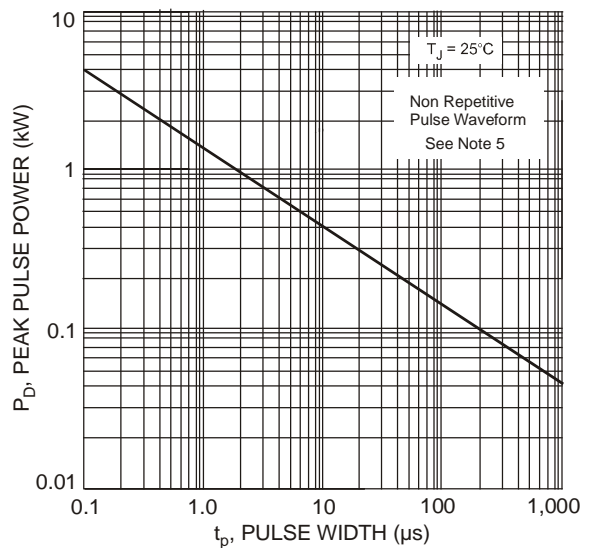


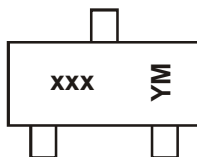
Fig. 4 Pulse Rating Curve

**Ordering Information** (Note 6)

Part Number	Case	Packaging
DLP05LC-7-F	SOT-23	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



xxx = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: T = 2006)  
 M = Month (ex: 9 = September)

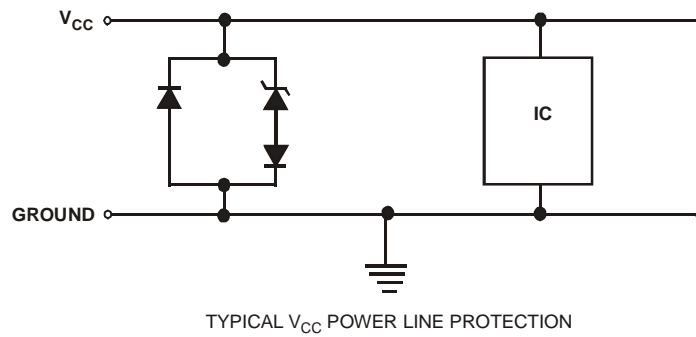
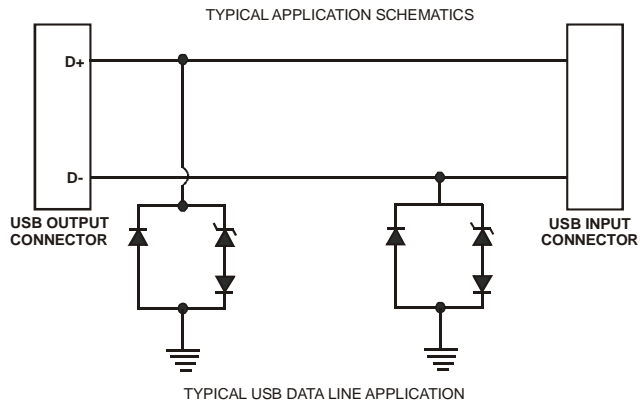
Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	T	U	V	W	X	Y	Z	A	B	C

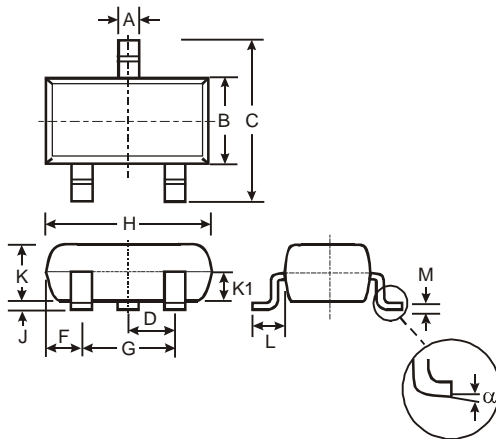
  

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Typical Application Schemes**

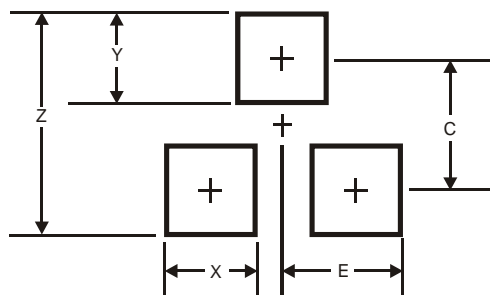


**Package Outline Dimensions**



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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