DLP05LC

LOW CAPACITANCE UNIDIRECTIONAL TVS

Please click here to visit our online spice models database.

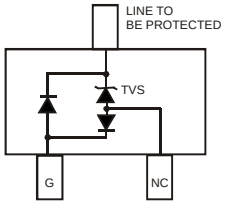
Features

- 300 Watts Peak Pulse Power (tp = 8x20ms)
- 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 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)**

Mechanical Data

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

Top View



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power (tp = 8x20μs)	P_{pk}	300	W

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	286	°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	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Reverse Leakage @ V_{RWM}	Max. Clamping Voltage @ I_{pp} = 1A (Note 3)	Max. Peak Pulse Current (Note 2)	Typical Total Capacitance (Note 1)
V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	I_R (μA)	V_C (V)	(A)	(pF)
5	6.0	—	1.0	20	11.0	17	1.6

Notes:
1. V_R = 0V, f = 1MHz.
2. tp = 8x20μs.
3. Clamping voltage value is based on an 8x20 μs 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 Sb_2O_3 Fire Retardants.

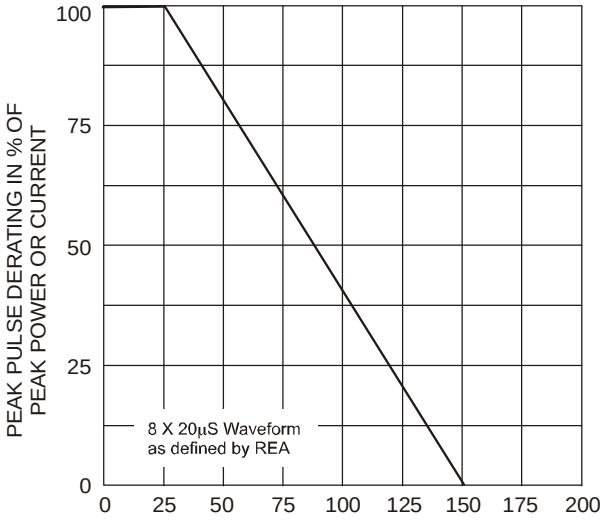


Fig. 1 Pulse Derating Curve

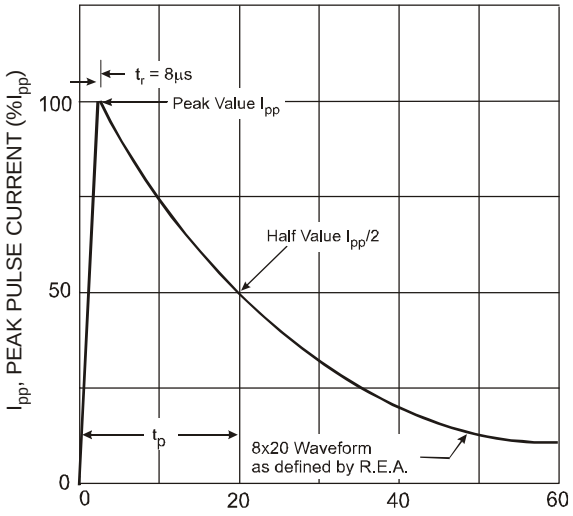


Fig. 2 Pulse Waveform

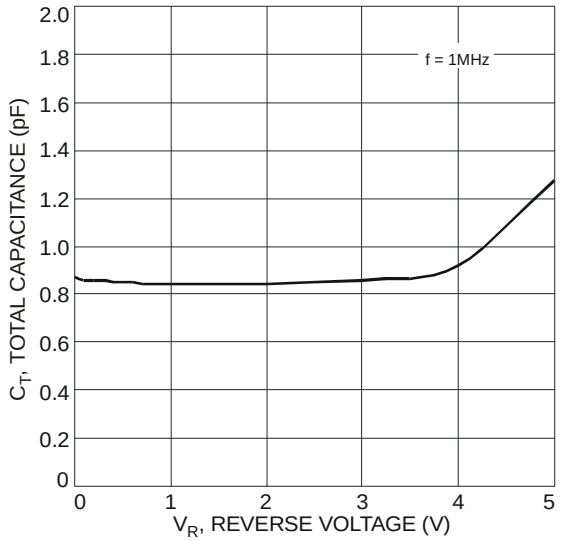


Fig. 3 Typical Total Capacitance

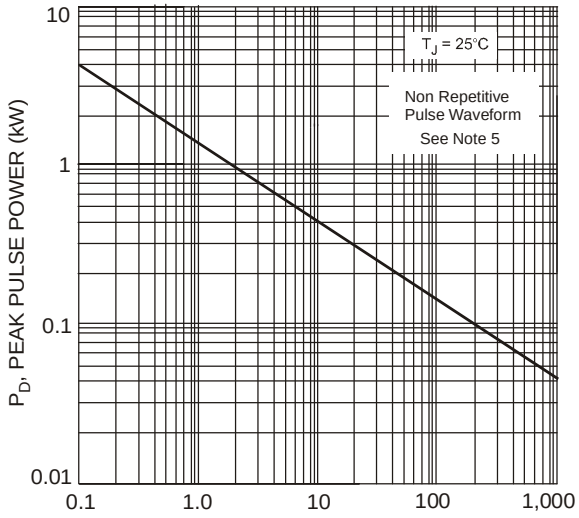


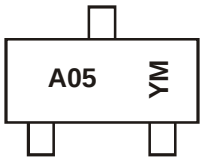
Fig. 4 Pulse Rating Curve

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



A05 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: T = 2006)
M = Month (ex: 9 = September)

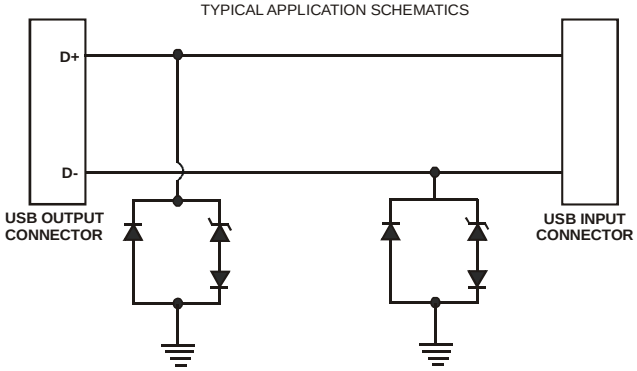
Date Code Key

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

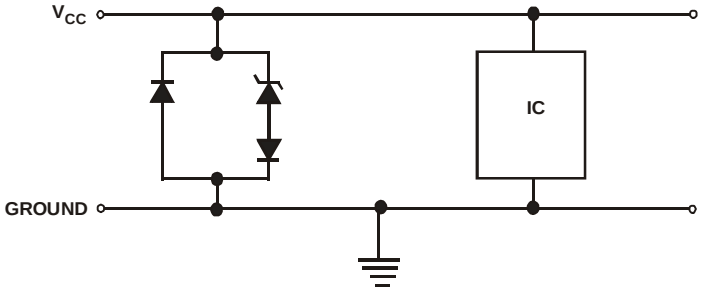
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Typical Application Schemes

TYPICAL APPLICATION SCHEMATICS

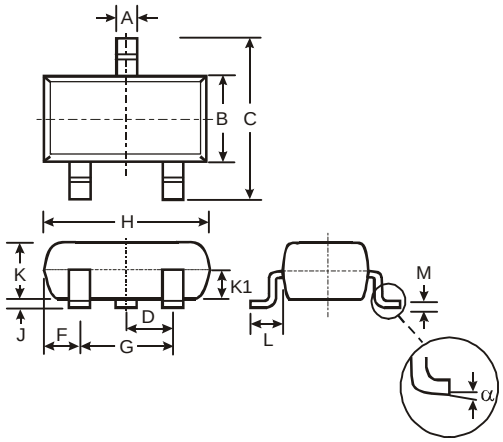


TYPICAL USB DATA LINE APPLICATION



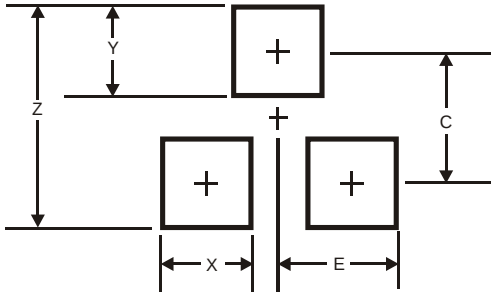
TYPICAL V_{CC} POWER LINE PROTECTION

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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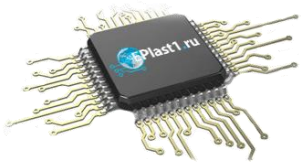
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.