



DLP05LC

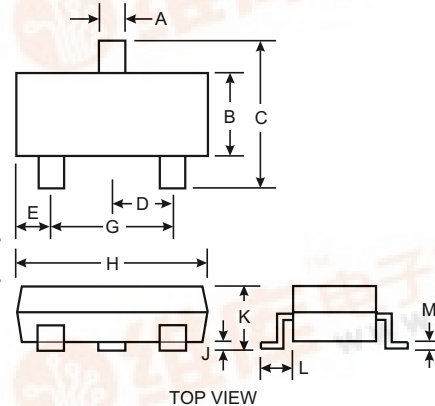
LOW CAPACITANCE UNIDIRECTIONAL TVS

Features

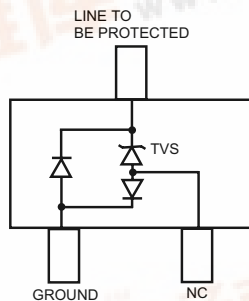
- 300 Watts Peak Pulse Power ($t_p = 8 \times 20 \mu s$)
- Transient Protection for data, signal, and V_{CC} bus to IEC61000-4-2 level 4 (ESD) and IEC 61000-4-4 (EFT)
- Low Capacitance, typ. $< 2 \text{ pF}$
- Low Leakage Current
- Unidirectional Configuration
- Surface Mount Package Ideally Suited for Automatic Insertion

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: A05 + Date Code, See Sheet 3
- Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		



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

Characteristic	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8 \times 20 \mu s$)	P_{pk}	300	W
Thermal 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 Junction 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. $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$.
 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.

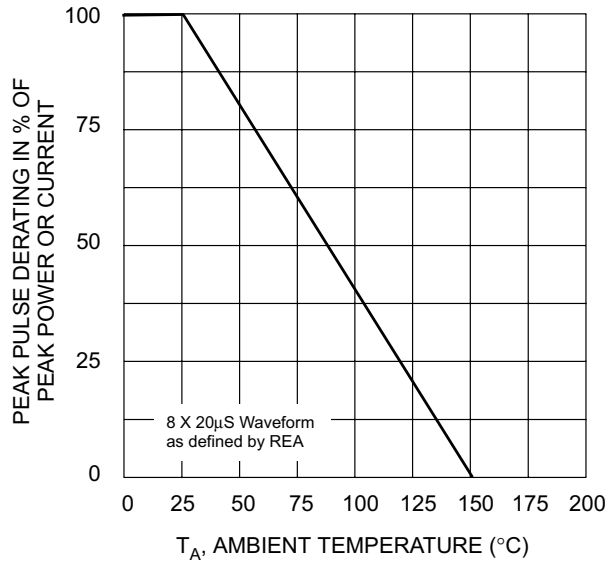


Fig. 1 Pulse Derating Curve

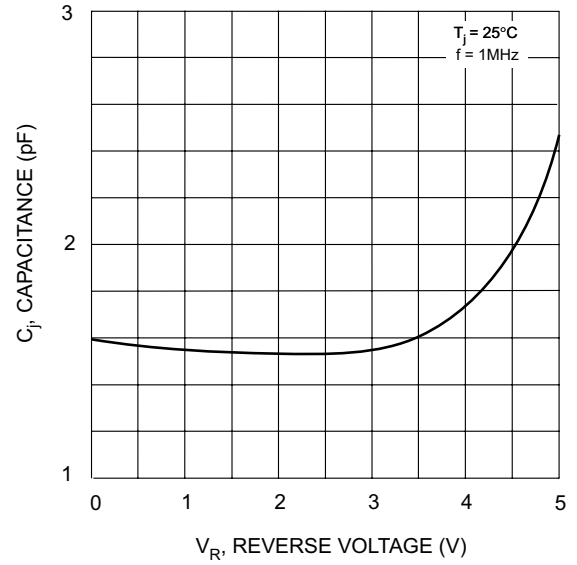


Fig. 2 Typ. Junction Capacitance vs Reverse Voltage

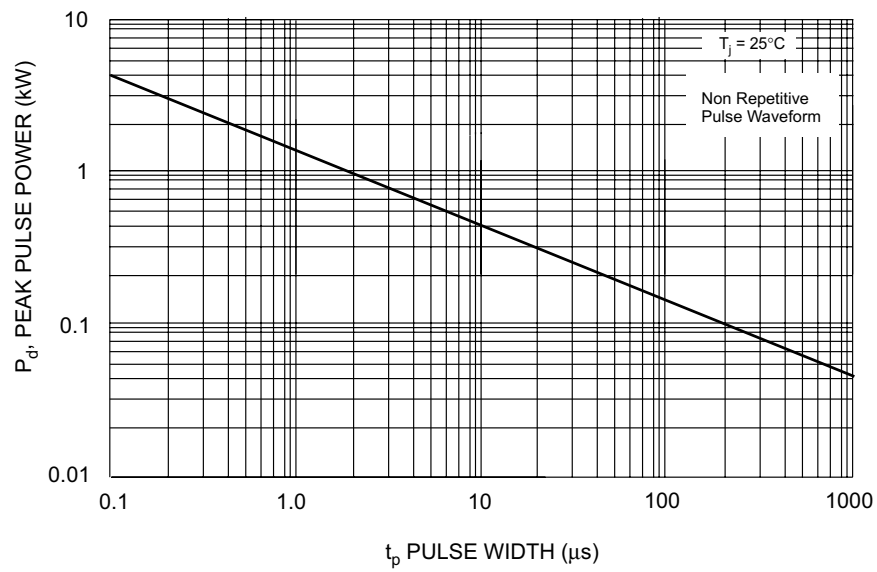


Fig. 3 Pulse Rating Curve

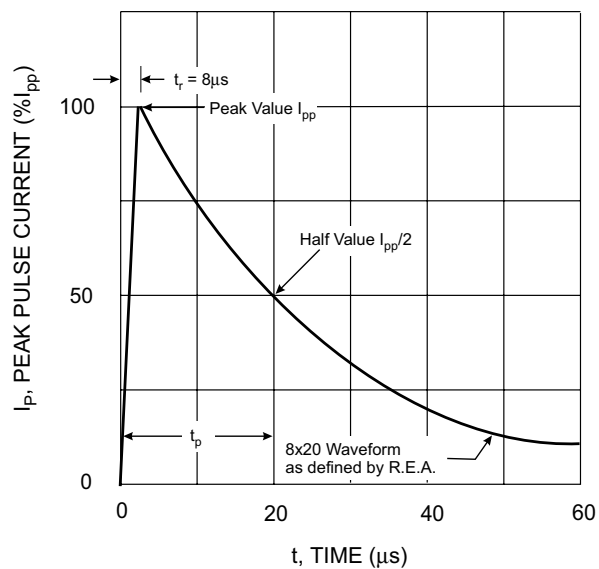


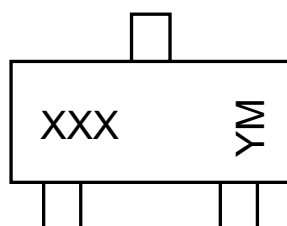
Fig. 4 Pulse Waveform

Ordering Information (Note 4)

Device	Packaging	Shipping
DLP05LC	SOT-23	3000/Tape & Reel

Notes: 4. 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: N = 2002
 M = Month ex: 9 = September

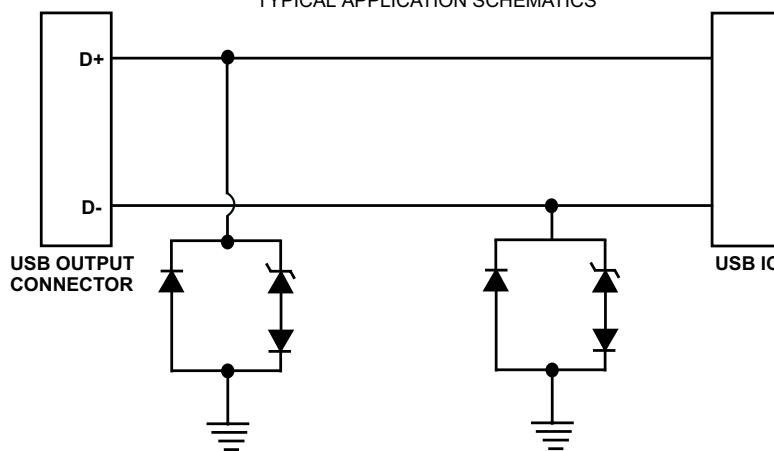
Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	O	P

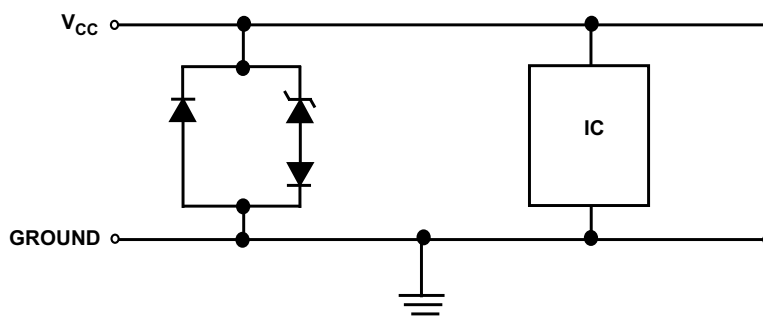
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Typical Application Schematics

TYPICAL APPLICATION SCHEMATICS



TYPICAL USB DATA LINE APPLICATION



TYPICAL V_{CC} POWER LINE PROTECTION