

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- Ideal For Three Dataline Rail Clamp or Three Phase Full Wave Bridge Rectification
- **Lead Free By Design/RoHS Compliant (Note 4)**
- **"Green" Device (Note 5)**

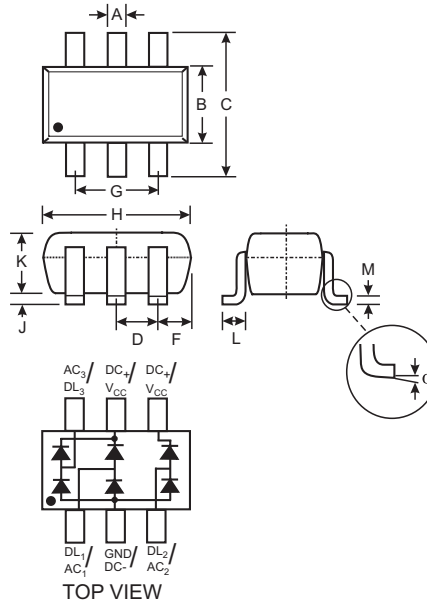
Data Line Transient Protection

In accordance with (Note 1):

- IEC 61000-4-2 Contact Method: ±15kV
- IEC 61000-4-2 Air Discharge Method: ±25kV

Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0 (Note 4)
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Matte Tin annealed over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208
- Ordering Information, See Page 3
- Marking: JAD (See Page 3)



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.80	2.20
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°

All Dimensions in mm

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	85	V
RMS Reverse Voltage	V _{R(RMS)}	60	V
Forward Current (Single Diode)	I _{FM}	160	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs @ t = 1.0ms @ t = 1.0s	I _{FSM}	4.0 1.0 0.5	A
Power Dissipation (Note 2)	P _d	200	mW
Thermal Resistance Junction to Ambient Air (Note 2)	R _{θJA}	625	°C/W
Power Dissipation (Note 3)	P _d	300	mW
Thermal Resistance Junction to Ambient Air (Note 3)	R _{θJA}	417	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

- Notes:
1. Tested with V_{CC} pins connected to GND pin.
 2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. Device mounted on Alumina PCB, 0.4 inch x 0.3 inch x 0.024 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 4. No purposefully added lead.
 5. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage (Note 6)	V_F	—	—	0.90 1.0 1.1 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Leakage Current (Note 6)	I_R	—	—	5.0 80	nA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_j = 150^\circ\text{C}$
Junction Capacitance (per element)	C_T	—	2	—	pF	$V_R = 0, f = 1.0\text{MHz}$
Capacitance Between Two Data Lines (DL ₁ & DL ₂ , DL ₁ & DL ₃)	C_{LL}	—	3.5	7	pF	$V_R = 0, f = 1.0\text{MHz}$
Capacitance Between Data Line and Ground	C_{LG}	—	2.7	6	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 6. Short duration test pulse to minimize self-heating effect.

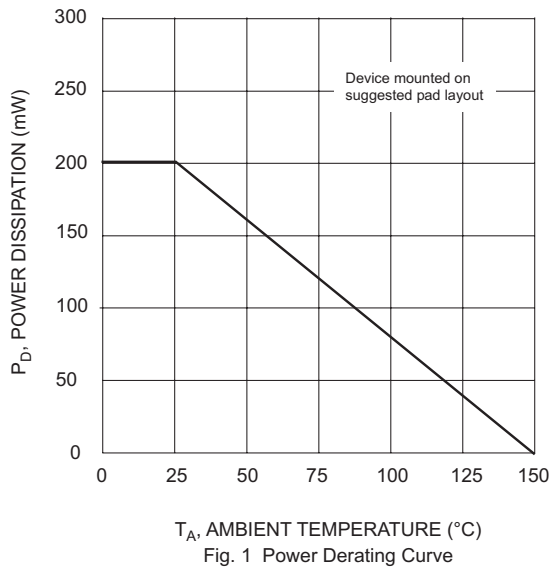


Fig. 1 Power Derating Curve

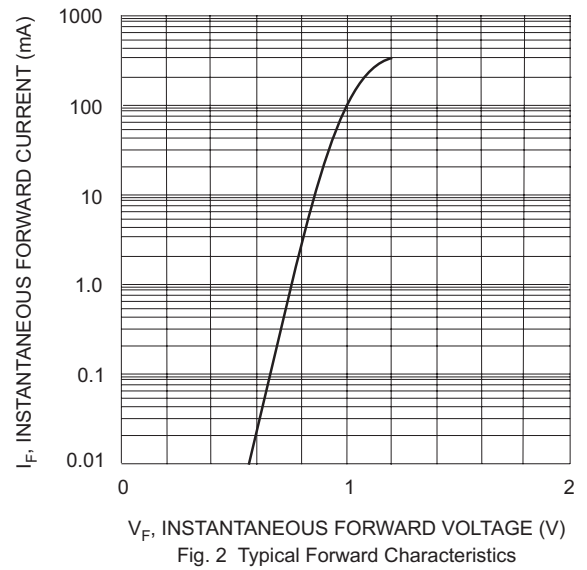


Fig. 2 Typical Forward Characteristics

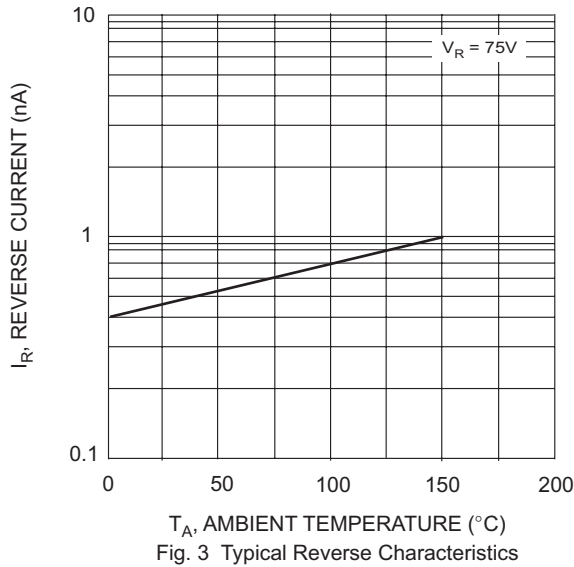


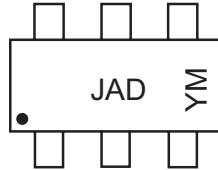
Fig. 3 Typical Reverse Characteristics

Ordering Information (Note 7)

Device DLPA006-7	Packaging SOT-363	Shipping 3000/Tape & Reel
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Notes: 7. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



JAD = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: S = 2005
 M = Month ex: 9 = September

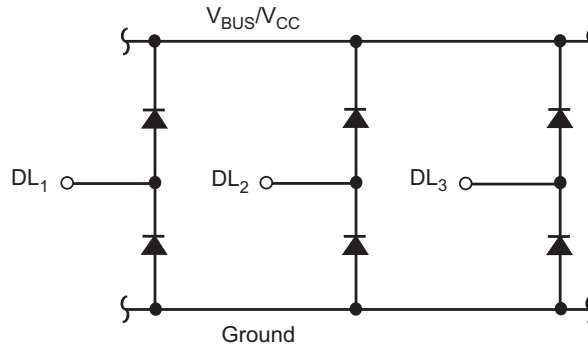
Date Code Key

Year						2005	2006	2007	2008	2009
Code						S	T	U	V	W

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 Applications

Data Line Bus Transient Suppressor



Three Phase, Full-Wave Bridge Rectifier

