

DATA BUS TRANSIENT SUPPRESSOR/THREE PHASE FULL WAVE BRIDGE RECTIFIER

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

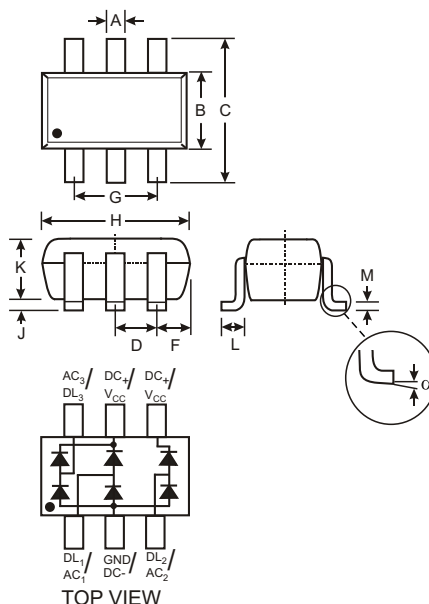
In accordance with (Note 1):

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)
- Weight: 0.006 grams (approximate)



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
	0	8
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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 @ $t = 1.0\text{ s}$ @ $t = 1.0\text{ ms}$ @ $t = 1.0\text{ s}$	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_{JA}	625	C/W
Power Dissipation (Note 3)	P_d	300	mW
Thermal Resistance Junction to Ambient Air (Note 3)	R_{JA}	417	C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	C

- Notes:
- Tested with V_{CC} pins connected to GND pin.
 - 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>.
 - 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>.
 - No purposefully added lead.
 - 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	$I_R = 100\text{ }\mu\text{A}$
Forward Voltage	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	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_j = 150^\circ\text{C}$
Total 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	s	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100$

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

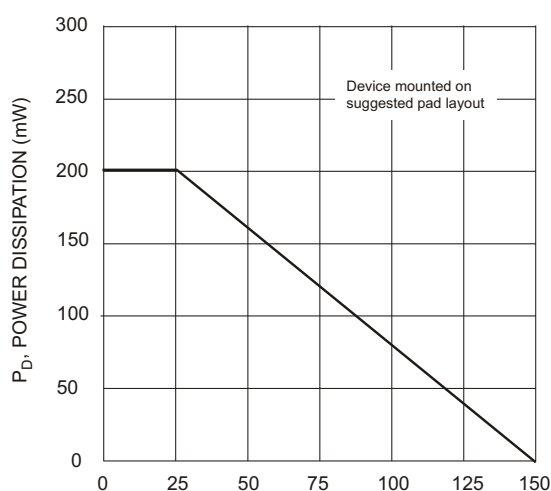


Fig. 1 Power Derating Curve

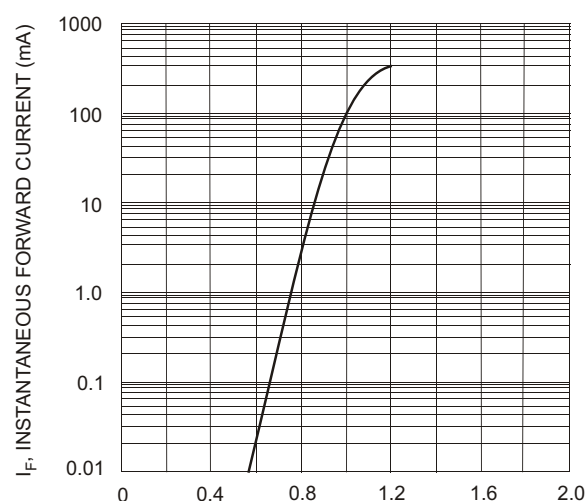


Fig. 2 Typical Forward Characteristics

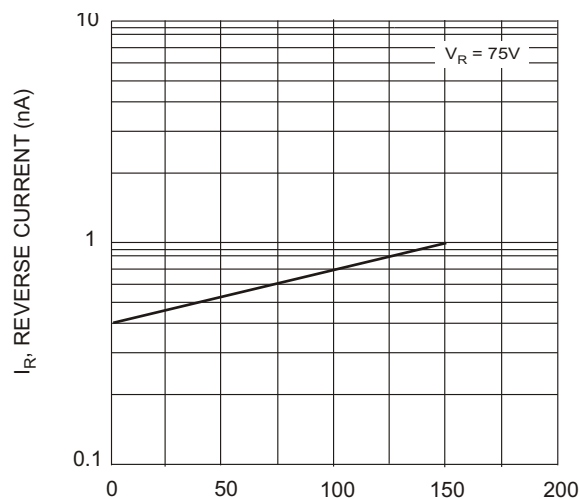


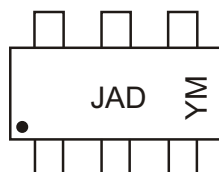
Fig. 3 Typical Reverse Characteristics

Ordering Information (Note 7)

Device	Packaging	Shipping
DLPA006-7	SOT-363	3000/Tape & Reel

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

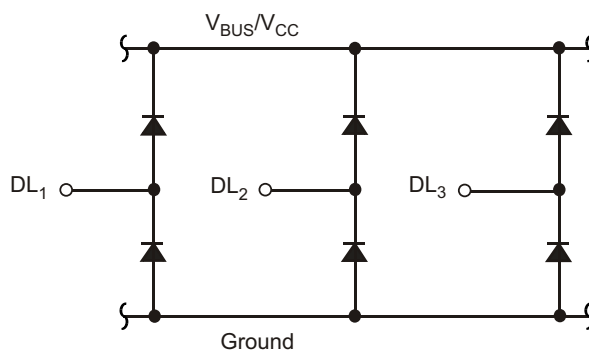
Date Code Key

Year	2005	2006	2007	2008	2009	2010	2011	2012
Code	S	T	U	V	W	X	Y	Z

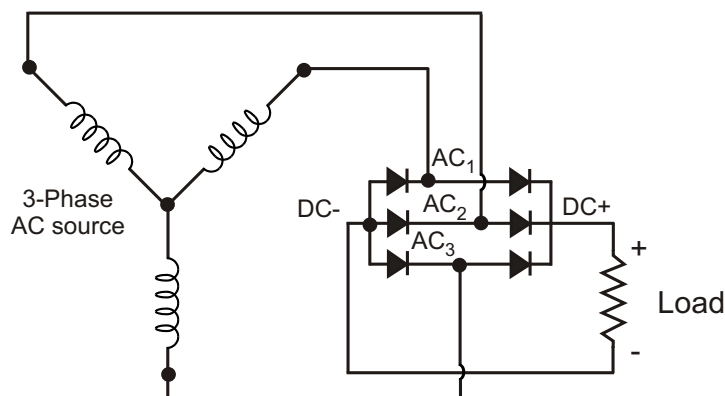
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Typical Applications

Data Line Bus Transient Suppressor



Three Phase, Full-Wave Bridge Rectifier



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