



DLPA004

DATA BUS TRANSIENT SUPPRESSOR

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- IEC 61000-4-2 Contact Method: ±15kV
- IEC 61000-4-2 Air Discharge Method: ±25kV
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen- and Antimony-Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Qsuffix) part. A listing can be found at https://www.diodes.com/products/automotive/automotiveproducts/.
- This part is qualified to JEDEC standards (as references in AEC-Q) for High-Reliability.

https://www.diodes.com/quality/product-definitions/

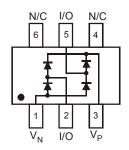
Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish—Matte Tin annealed over Alloy 42 Lead-Frame. Solderable per MIL-STD-202. Method 208 @3
- Weight: 0.006 grams (Approximate)

SOT-363



Top View



Device Schematic

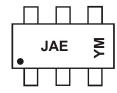
Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
DLPA004-7	Standard	SOT-363	3000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/

Marking Information



JAE = Product Type Marking Code YM = Date Code Marking Y = Year (ex: V = 2020) M = Month (ex: 9 = September)

Date Code Kev

Year	2008			2020		2021	2022		2023	2024		2025
Code	V			Н			J		K	L		М
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



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}	200	mA
Repetitive Peak Forward Current	I _{FRM}	450	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs @ t = 1.0ms @ t = 1.0s	I _{FSM}	4.0 1.0 0.5	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{ hetaJA}$	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

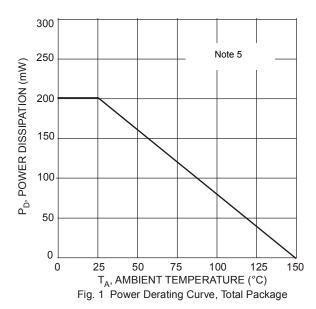
Electrical Characteristics @ T_A = 25°C unless otherwise specified

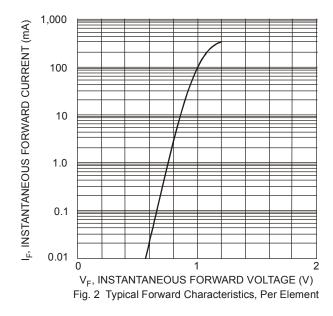
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	85	_	_	V	I _R = 100μA
Forward Voltage	V _F			0.80 0.90 1.0 1.25	V	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Leakage Current (Note 6)	I _R	I		2.5 30 50	μA	$V_R = 70V$ $V_R = 25V, T_J = 150^{\circ}C$ $V_R = 70V, T_J = 150^{\circ}C$
Total Capacitance (per element)	C _T		2	_	pF	V _R = 0, f = 1.0MHz
Capacitance Between Two Data Lines (DL ₁ & DL ₂ , DL ₁ & DL ₃)	C_{LL}	1	1.6	2.0	pF	V _R = 0, f = 1.0MHz
Capacitance Between Data Line and Ground	C _{LG}	1	2.3	3.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	_	3.0	μs	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

Notes:

- 5. Device mounted on FR-4 PCB, 1.5 inch x 1.5 inch; 2oz copper with 1" x 1" pad layout. 6. Short duration pulse test used to minimize self-heating effect.







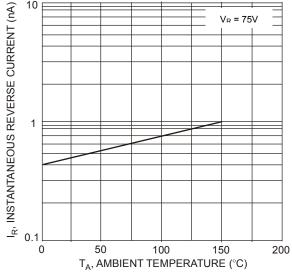
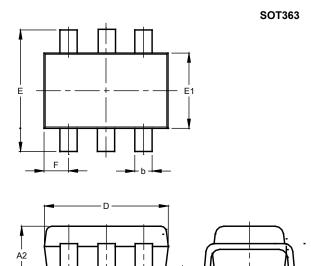


Fig. 3 Typical Reverse Characteristics, Per Element



Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

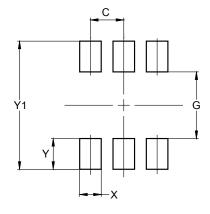


SOT363						
Dim	Min	Max	Тур			
A1	0.00	0.10	0.05			
A2	0.90	1.00	0.95			
b	0.10	0.30	0.25			
С	0.10	0.22	0.11			
D	1.80	2.20	2.15			
Е	2.00	2.20	2.10			
E1	1.15	1.35	1.30			
е	0.650 BSC					
F	0.40	0.45	0.425			
ш	0.25	0.40	0.30			
а	0°	8°				
All Dimensions in mm						

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT363



Dimensions	Value			
Dillielisiolis	(in mm)			
С	0.650			
G	1.300			
Х	0.420			
Υ	0.600			
Y1	2.500			

October 2020

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