NEW PRODUCT

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Data Line Transient Protection

In accordance with (Note 1):

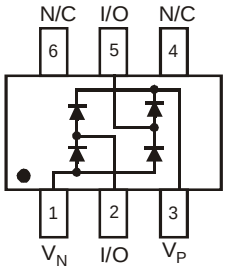
- IEC 61000-4-2 Contact Method: ±15kV
- IEC 61000-4-2 Air Discharge Method: ±25kV

Mechanical Data

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

TOP VIEW

SOT-363



Device Schematic

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
Peak Forward Surge Current 8.3ms Single half Sine-Wave Superimposed on Rated Load	$I_{FM(surge)}$	3.5	A
Average Rectified Forward Current (Note 1)	$I_{F(AV)}$	1	A
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	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	625	°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. No purposefully added lead.
4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

NEW PRODUCT

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	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 5)	I_R	— — —	— — —	2.5 30 50	μA	V_R = 70V V_R = 25V, T_J = 150°C V_R = 70V, T_J = 150°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}	—	1.6	2.0	pF	V_R = 0, f = 1.0MHz
Capacitance Between Data Line and Ground	C_{LG}	—	2.3	3.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 5. Short duration pulse test used to minimize self-heating effect.

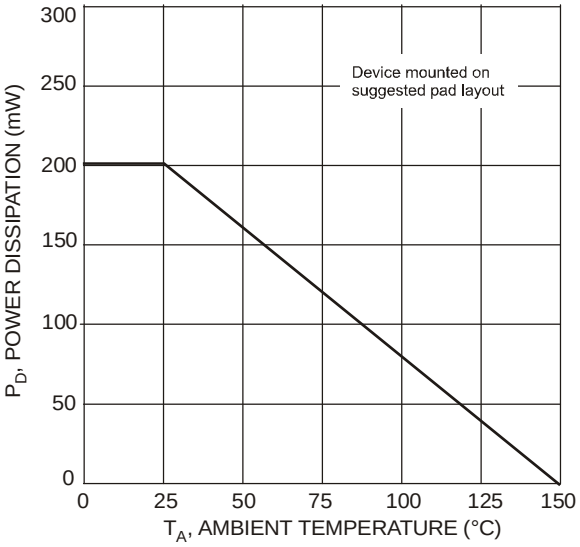


Fig. 1 Power Derating Curve, Total Package

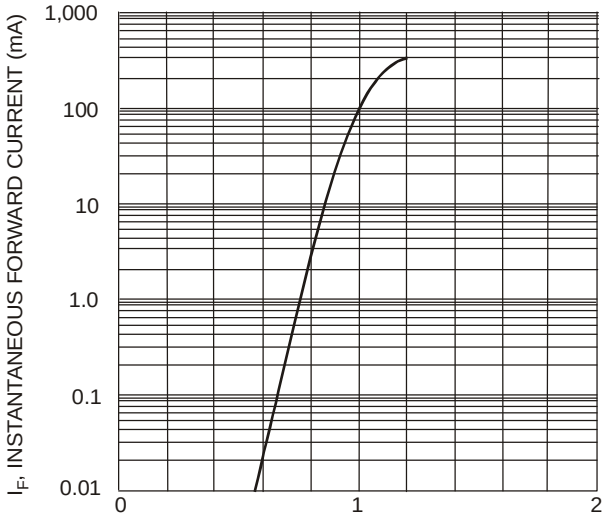


Fig. 2 Typical Forward Characteristics, Per Element

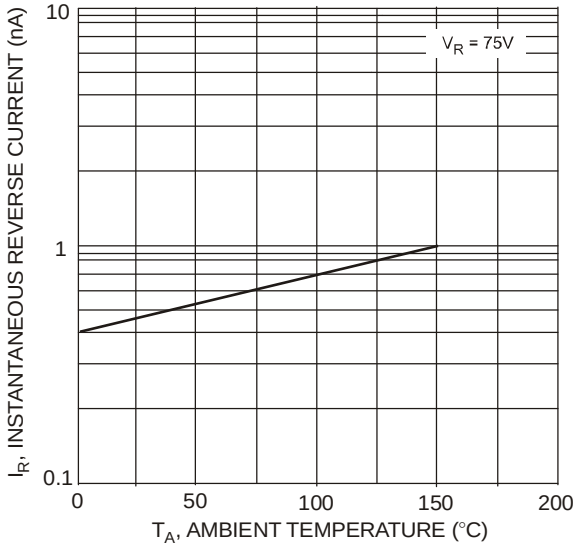


Fig. 3 Typical Reverse Characteristics, Per Element

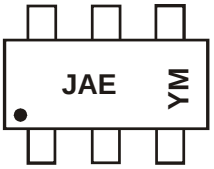
NEW PRODUCT

Ordering Information (Note 6)

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

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



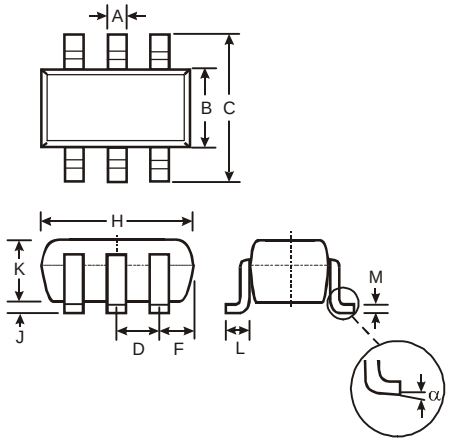
JAE = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: V = 2008)
M = Month (ex: 9 = September)

Date Code Key

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

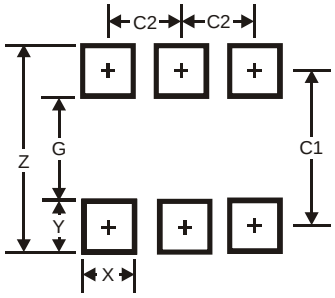
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Typ	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

NEW PRODUCT

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