



#### Features

- IEC 61000-4-2 (ESD): Air ±15kV, Contact ±8kV
- 4 Channels of ESD Protection
- Low Channel Input Capacitance of 0.5pF Typical
- Typically Used at High Speed Ports such as USB 2.0, USB3.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

#### 4 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY

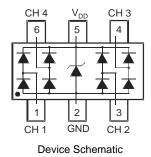
#### **Mechanical Data**

- Case: SOT363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208
- Weight: 0.006 grams (Approximate)



SOT363

Top View



## Ordering Information (Note 4)

Product	Compliance	Marking	Reel size(inches)	Tape width(mm)	Quantity per reel
D5V0F4U6S-7	Standard	TV8	7	8	3,000/Tape & Reel

No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
See http://www.diodes.com/quality/lead\_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green"

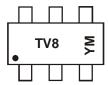
2. See http://www.o

Notes:

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.</p>

4. For packaging details, go to our website at http://www.diodes.com/products/packages.html

# Marking Information



TV8 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: A = 2013) M = Month (ex: 9 = September)

Dat	te Code Key												
	Year	201	3	2014		2015	20	16	2017		2018	2	2019
	Code	A		В		С	[	)	E		F		G
	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<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	I <sub>PP</sub>	3.0	А	8/20µs, Figure 3
ESD Protection – Contact Discharge	V <sub>ESD_Contact</sub>	±8	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	$V_{ESD\_Air}$	±15	kV	Standard IEC 61000-4-2

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	PD	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	R <sub>0JA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

# Electrical Characteristics (@TA = +25°C unless otherwise specified)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Working Voltage	V <sub>RWM</sub>	_	—	5.5	V	_
Reverse Current (Note 6)	I <sub>R</sub>	_	—	200	nA	V <sub>R</sub> = 5.5V
Reverse Breakdown Voltage	V <sub>BR</sub>	6.0	_	-	V	I <sub>R</sub> = 1mA
Reverse Clamping Voltage, Positive Transients (Note 7)	V <sub>CL</sub>	_	10	12	V	$I_{PP} = 1A, t_p = 8/20 \mu s$
Dynamic Resistance	R <sub>DYN</sub>	_	1.0		Ω	$I_R = 1A, t_p = 8/20 \mu s$
Conscitance (Note 9)	<u> </u>	—	0.4	0.65	pF	V <sub>R</sub> = 2.5V, f = 1MHz
Capacitance (Note 8)	CT	_	0.5	—	pF	$V_R = 0V, f = 1MHz$

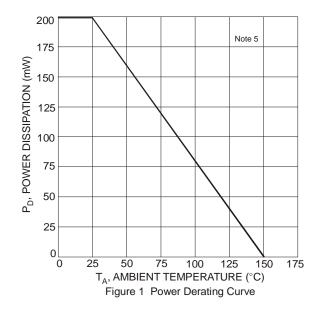
Notes: 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.

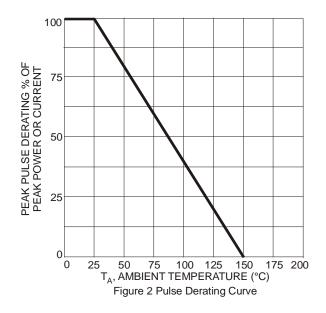
6. Short duration pulse test used to minimize self-heating effect.

7. Clamping voltage value is based on an 8x20  $\mu s$  peak pulse current (I\_{pp}) waveform.

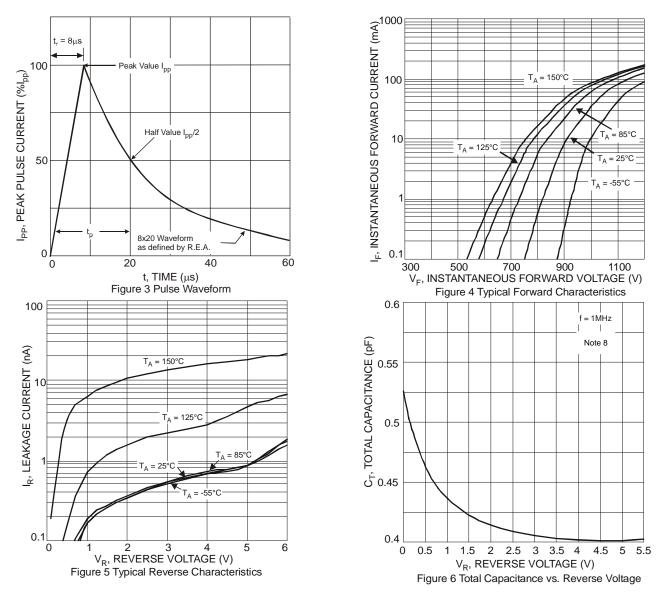
8. Measured from any CH to GND.

9. For information on the impact of Diodes' USB 2.0 compatible ESD protectors on signal integrity including eye diagram plots, please refer to AN77 at the following URL: http://www.diodes.com/destools/appnote\_dnote.html.



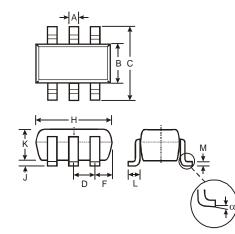






# **Package Outline Dimensions**

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.

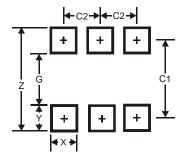


SOT363						
Dim	Min	Max	Тур			
Α	0.10	0.30	0.25			
В	1.15	1.35	1.30			
С	2.00	2.20	2.10			
D	0.65 Typ					
F	0.40	0.45	0.425			
Н	1.80	2.20	2.15			
J	0	0.10	0.05			
κ	0.90	1.00	1.00			
L	0.25	0.40	0.30			
Μ	0.10	0.22	0.11			
α	0°	8°	-			
All Dimensions in mm						



## Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



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

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