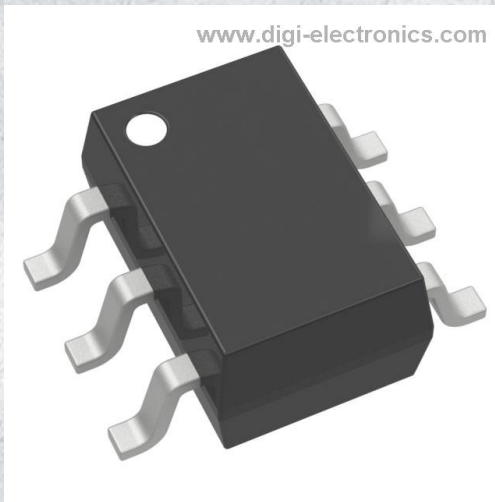


DRTR5V0U4TS-7 Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	DRTR5V0U4TS-7-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	DRTR5V0U4TS-7
Description	TVS DIODE 5.5VWM 10VC TSOT26
Detailed Description	10V (Typ) Clamp 1A (8/20 μ s) Ipp Tvs Diode Surface Mount TSOT-26

This model DRTR5V0U4TS-7 is available at DiGi Electronics.

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RFQ Email: Info@DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:

DRTR5V0U4TS-7

Series:

-

Type:

Steering (Rail to Rail)

Voltage - Reverse Standoff (Typ):

5.5V (Max)

Voltage - Clamping (Max) @ Ipp:

10V (Typ)

Power - Peak Pulse:

-

Applications:

HDMI

Operating Temperature:

-65°C ~ 150°C (Tj)

Qualification:

AEC-Q101

Package / Case:

SOT-23-6 Thin, TSOT-23-6

Base Product Number:

DRTR5

Manufacturer:

Diodes Incorporated

Product Status:

Obsolete

Unidirectional Channels:

4

Voltage - Breakdown (Min):

6V

Current - Peak Pulse (10/1000µs):

1A (8/20µs)

Power Line Protection:

Yes

Capacitance @ Frequency:

1pF @ 1MHz

Grade:

Automotive

Mounting Type:

Surface Mount

Supplier Device Package:

TSOT-26

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



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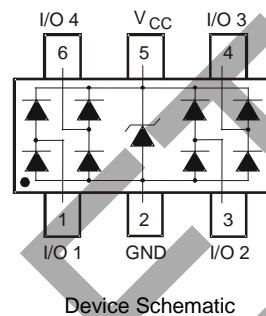
4 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY

Features

- IEC 61000-4-2 (ESD): Air ± 30 kV, Contact ± 25 kV
- 4 Channels of ESD Protection
- Low Channel Input Capacitance of 1.0pF Typical
- Typically Used at High Speed Ports such as USB 2.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: TSOT26
- 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 e3
- Weight: 0.013 grams (approximate)

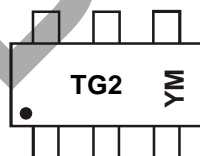


Ordering Information (Note 4)

Product	Compliance	Marking	Reel size(inches)	Tape width(mm)	Quantity per reel
DRTR5V0U4TS-7	AEC-Q101	TG2	7	8	3,000/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



TG2 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: A = 2013)
 M = Month (ex: 9 = September)

Date Code Key

Year	2013	2014	2015	2016	2017	2018	2019
Code	A	B	C	D	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	O	N	D



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Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	I _{PP}	5	A	8/20μs, Per Figure 3
ESD Protection – Contact Discharge	V _{ESD_Contact}	±25	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V _{ESD_Air}	±30	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	300	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{ΘJA}	417	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	5.5	V	—
Channel Leakage Current (Note 6, 7)	I _R	—	1	100	nA	V _R = 3V
Reverse breakdown voltage	V _{BR}	6.0	—	9.0	V	I _R = 1mA, from pin 5 to pin 2
Forward Voltage	V _F	—	0.8	—	V	I _F = 8mA
Clamping Voltage, Positive Transients	V _{CL1}	—	10.0	—	V	I _{PP} = 1A, t _p = 8/20μs, I/O to GND
Clamping Voltage, Negative Transients	V _{CL2}	—	-1.7	—	V	I _{PP} = -1A, t _p = 8/20μs, I/O to GND
Clamping Voltage, Positive Transients	V _{CL1}	—	14.5	—	V	I _{PP} = 5A, t _p = 8/20μs, I/O to GND
Clamping Voltage, Negative Transients	V _{CL2}	—	-5.0	—	V	I _{PP} = -5A, t _p = 8/20μs, I/O to GND
Dynamic Resistance	R _{DYN}	—	0.9	—	Ω	I _{PP} = 1A, t _p = 8/20μs
I/O to GND Capacitance	C _(I/O-GND)	—	1.0	1.5	pF	V _(I/O-GND) = 0V, f = 1MHz
I/O to I/O Capacitance	C _(I/O-I/O)	—	0.6	—	pF	V _(I/O-I/O) = 0V, f = 1MHz

- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes Incorporated's suggested pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 - Short duration pulse test used to minimize self-heating effect.
 - Measured from pin 1, 3, 4, 5 and 6 to GND.
 - 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/destdtools/apnnote_dnote.html

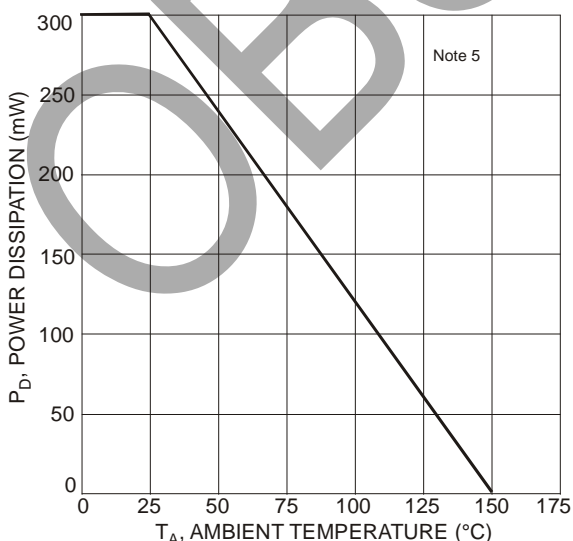


Figure 1 Power Derating Curve

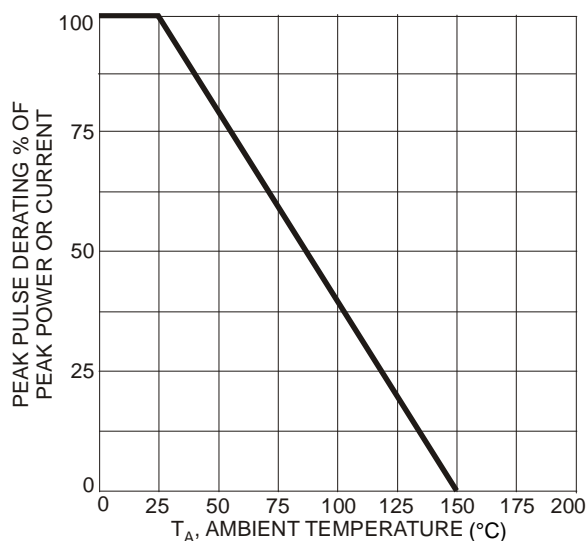


Figure 2 Pulse Derating Curve



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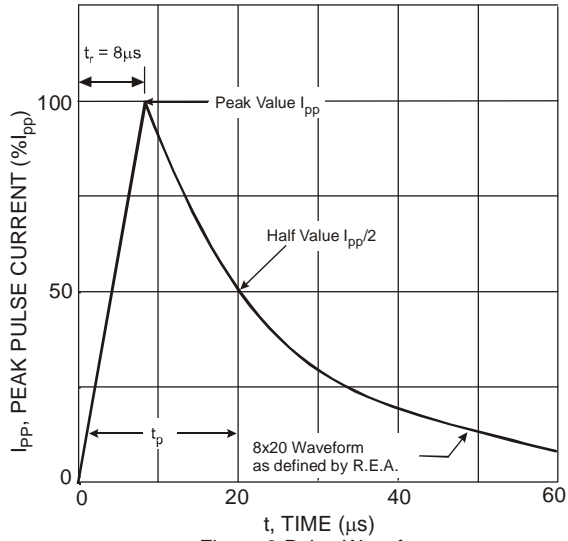


Figure 3 Pulse Waveform

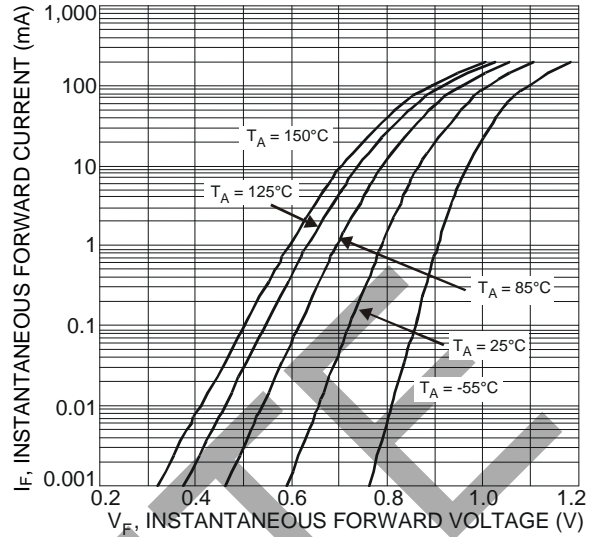


Figure 4 Typical Forward Characteristics

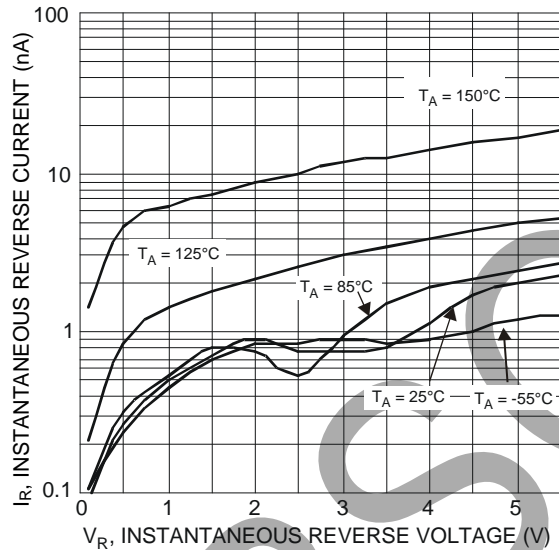


Figure 5 Typical Reverse Characteristics

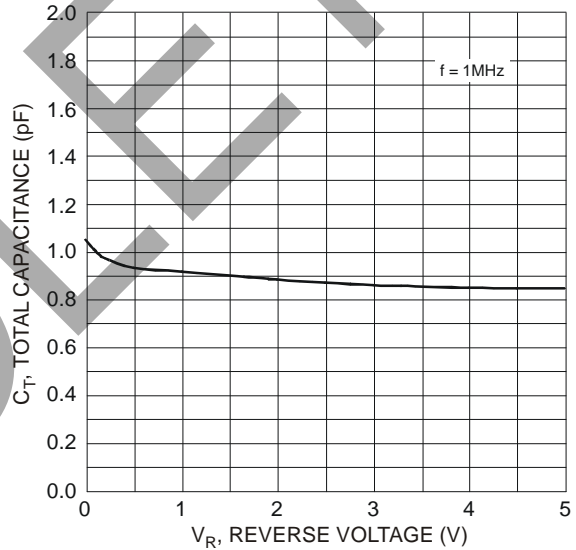


Figure 6 Typical Total Capacitance vs. Reverse Voltage

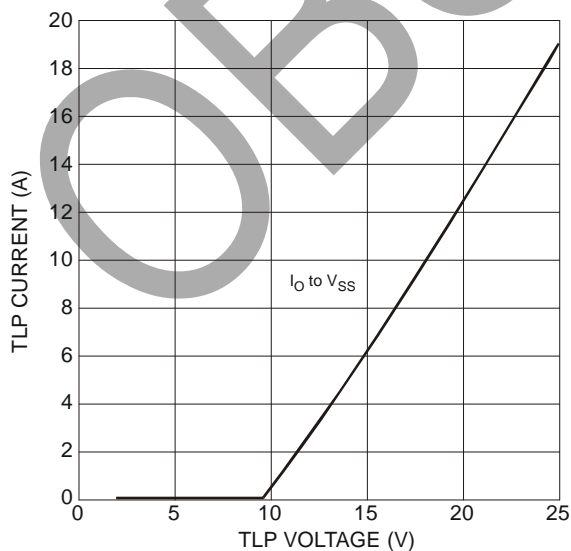
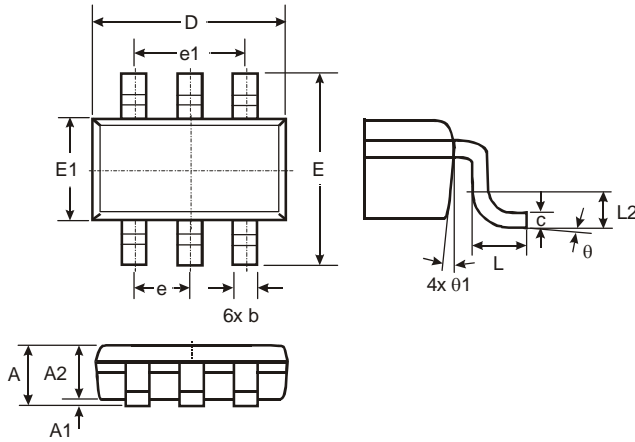


Figure 7 Transmission Line Pulsing (TLP) Current vs. Voltage

Package Outline Dimensions

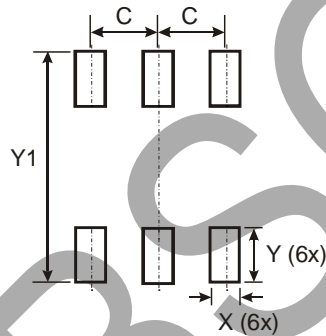
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



TSOT26			
Dim	Min	Max	Typ
A	–	1.00	–
A1	0.01	0.10	–
A2	0.84	0.90	–
D	–	–	2.90
E	–	–	2.80
E1	–	–	1.60
b	0.30	0.45	–
c	0.12	0.20	–
e	–	–	0.95
e1	–	–	1.90
L	0.30	0.50	–
L2	–	–	0.25
θ	0°	8°	4°
θ 1	4°	12°	–
All Dimensions in mm			

Suggested Pad Layout

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



Dimensions	Value (in mm)
C	0.950
X	0.700
Y	1.000
Y1	3.199



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