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Diodes Incorporated
D14V0H1U2WS-7

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Distributor of Diodes Incorporated: Excellent Integrated System Limited
Datasheet of D14V0H1U2WS-7 - TVS DIODE 14VWM 25VC
Contact us: sales@integrated-circuit.com Website: www.integrated-circuit.com

Lead-free Green

D14V0H1U2WS

1 CHANNEL UNIDIRECTIONAL TVS

Product Summary

$V_{BR\ min}$	$I_{pp\ max}$	$C_{IN\ typ}$
14.5V	25A	160pF

Description

This new generation TVS is designed to protect sensitive electronics from the damage due to ESD. The combination of small size and high ESD surge capability makes it ideal for use in portable applications such as cellular phones, digital cameras and MP3 players.

Applications

- Cellular Handsets
- Portable Electronics
- Computers and Peripheral

Features

- Provides ESD Protection per IEC 61000-4-2 Standard:
  Air ±30kV, Contact ±30kV
- 1 Channel of ESD Protection
- Low Channel Input Capacitance
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Matte Tin Finish Annealed over Alloy 42 Leadframe (Lead-free Plating). Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.004 grams (Approximate)

SOD323

Top View

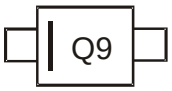
Device Schematic

Ordering Information (Note 4)

Product	Compliance	Marking	Reel size(inches)	Tape width(mm)	Quantity per reel
D14V0H1U2WS-7	Standard	Q9	7	8	3,000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html 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 http://www.diodes.com/products/packages.html.

Marking Information



Q9 = Product Type Marking Code
Line Denotes Pin 1

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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P_{PP}	600	W	8/20μs, Per Figure 3
Peak Pulse Current	I_{PP}	25	A	8/20μs, Per Figure 3
ESD Protection – Contact Discharge	$V_{ESD_Contact}$	±30	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_Air}	±30	kV	Standard IEC 61000-4-2
ESD Protection – Human Body Model	V_{ESD_HBM}	±16	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	625	°C/W
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Working Voltage	V_{RWM}	—	—	14	V	—
Reverse Current (Note 6)	I_R	—	10	100	nA	$V_R = V_{RWM}$ = 14V
Reverse Breakdown Voltage	V_{BR}	14.5	—	17.5	V	I_R = 1mA
Reverse Clamping Voltage	V_{CL}	—	—	20	V	I_{PP} = 5A, t_p = 8/20μs
		—	—	23		I_{PP} = 15A, t_p = 8/20μs
		—	—	25		I_{PP} = 25A, t_p = 8/20μs
Capacitance	C_T	—	160	—	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.

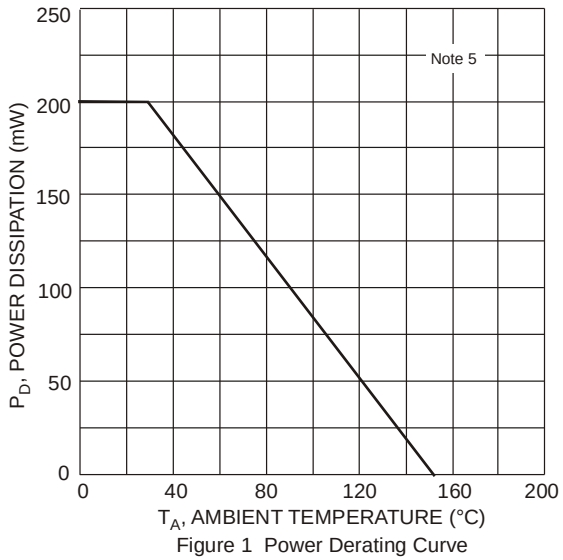

Figure 1 Power Derating Curve

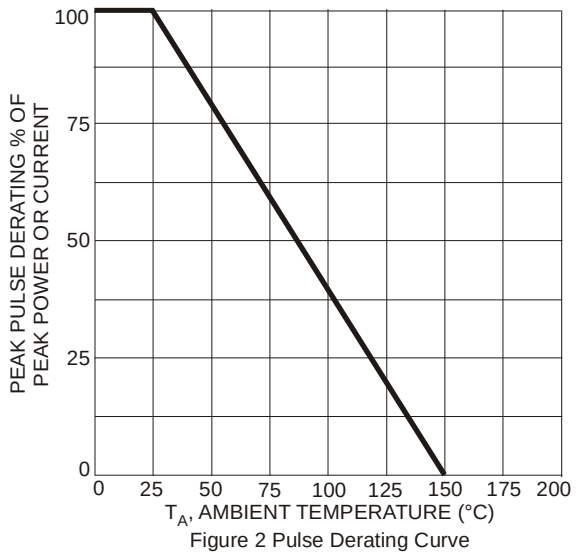

Figure 2 Pulse Derating Curve

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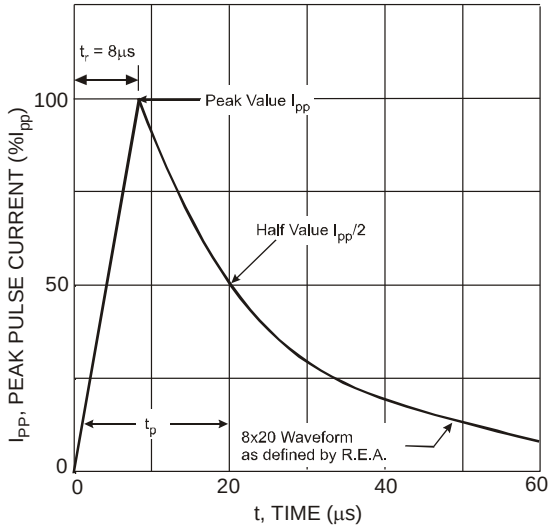

Figure 3 Typical 8 x 20µs Pulse Waveform

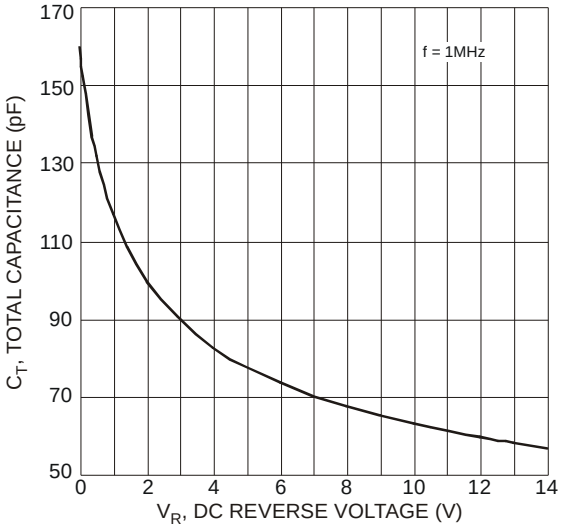

Figure 4 Typical Total Capacitance

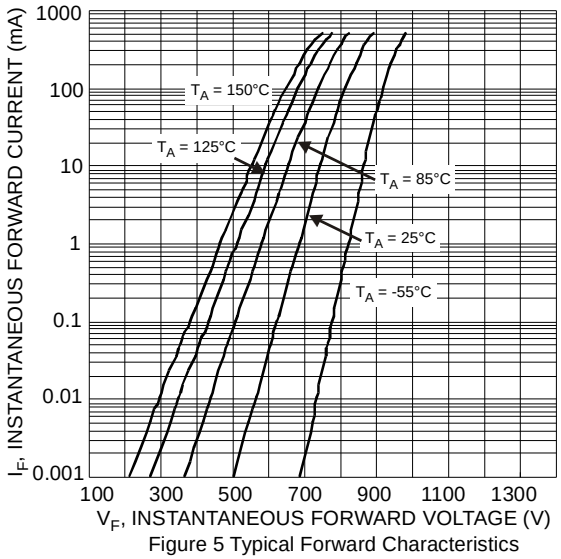

Figure 5 Typical Forward Characteristics

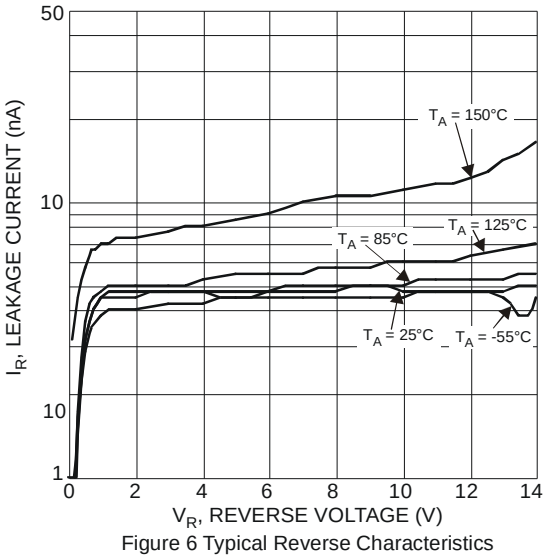

Figure 6 Typical Reverse Characteristics

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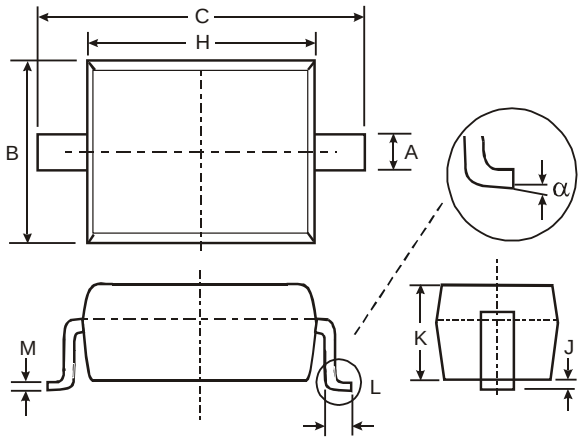
Package Outline Dimensions

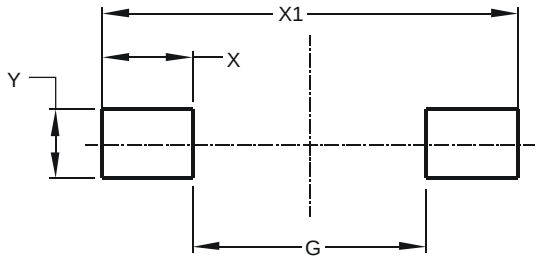
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SOD323		
Dim	**Min**	**Max**
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
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)
G	1.520
X	0.590
X1	2.700
Y	0.450

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