



DWNC5Dxx1UA ESD Protection Diode

Feature

- Uni-directional ESD protection of one line
- Working voltage: 3.3V 5V 7V 12V 15V 24V
- 250W Peak pulse Power (8/20us)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30\text{kV}$ contact $\pm 30\text{kV}$ air

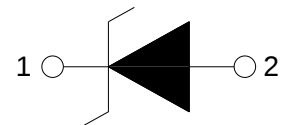
Application

- Portable electronic
- Control & monitoring systems
- Servers, notebooks, and desktop PCs
- Set-top box
- Communications systems
- Digital cameras

Mechanical Data

- Package: SOD-523
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
DWNC5Dxx1UA	SOD-523	Halogen	Tape & Reel	3000 PCS	UL 94V-0	7 inches
Marking for the DWNC5Dxx1UA series						
V_{RWM}	3.3V	5V	7V	12V	15V	24V
Marking	N1	N2	Z.H.8	N3	N4	N5

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{PK}	-	250	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{PP}		Refer to Table-1	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 30	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 30	kV
Junction temperature	T_J	-	125	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40	85	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

Electrical Parameters

Symbol	Description
V_{RWM}	Rated reverse stand-off voltage
V_{BR}	Minimum breakdown voltage @ $I_T = 1\text{mA}$
V_{CL}	Typical Clamping voltage
I_{PP}	Maximum peak pulse current
I_R	Reverse leakage current @ V_{RWM}
C_J	Typical line capacitance ($V_{IO}=0\text{V}$, $V_{P-P} = 30\text{mV}$, $f = 1\text{MHz}$)

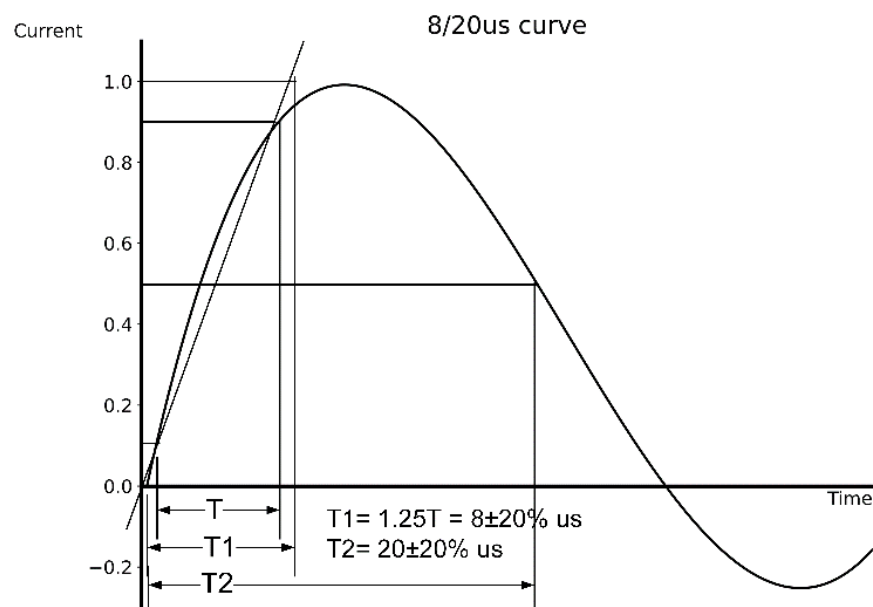


Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number	V_{RWM}	V_{BR}	$V_{CL}@I=1A$	I_{PP}	$V_{CL}@I=I_{PP}$	I_R	C_J
	(V)	(V)	(V)	(A)	(V)	(μA)	(pF)
DWNC5D3V1UA	3.3	4.5	8.5	16.0	18.0	1.0	200
DWNC5D5V1UA	5.0	6.5	9.5	15.0	20.0	1.0	180
DWNC5D7V1UA	7.0	7.5	11.0	12.0	22.0	1.0	140
DWNC5D12V1UA	12.0	13.3	20.0	8.0	35.0	1.0	100
DWNC5D15V1UA	15.0	16.5	25.0	6.0	45.0	1.0	60
DWNC5D24V1UA	24.0	26.0	40.0	4.0	55.0	1.0	40

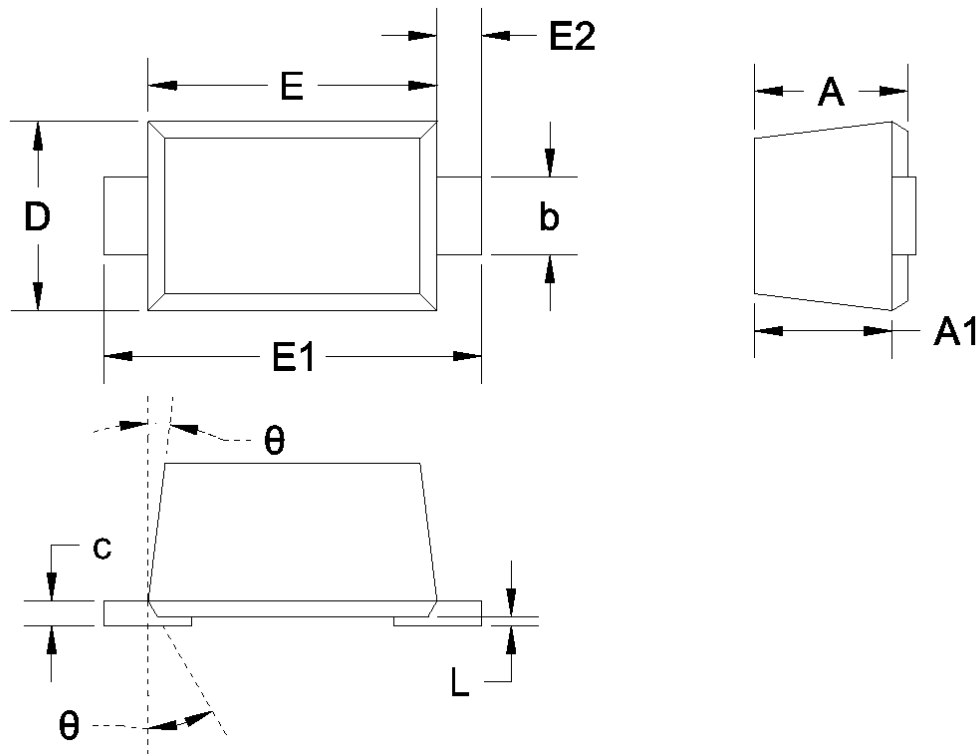
Table-1 Electrical Characteristics for All Series

Typical Characteristics





SOD-323 Outline Drawing



Units: Millimeters

Unit	A	A1	b	c	D	E	E1	E2	L	θ
Max.	0.77	0.70	0.35	0.15	0.85	1.30	1.70	0.20	0.07	7°
Min.	0.51	0.50	0.25	0.08	0.75	1.10	1.50	REF.	0.01	REF.