



Features

- 486 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Bidirectional Configuration
- Protects One Power or I/O Port
- Low Clamping Voltages
- Ultra Low Capacitance: 1.0 pF Typical
- AEC-Q101 Qualified

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5(Lightning) 9A (8/20 μs)

Mechanical Characteristics

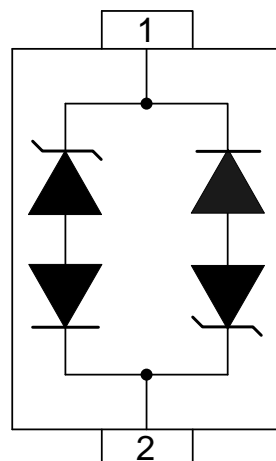
- Molded JEDEC SOD-323 package
- Weight 10 milligrams (Approximate)
- 8mm Tape and Reel Per EIA Standard 481
- Device Marking: Marking Code
- RoHS Compliant

Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface



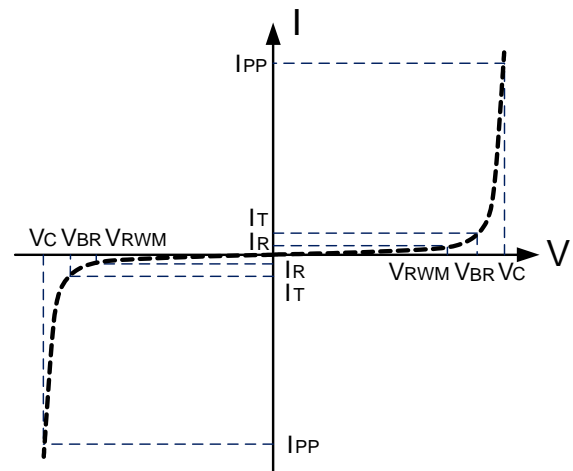
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	486	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	9	A
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Electrical Characteristics

DW24DLC-B-AT-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				24.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	26.7			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$, $T = 25^\circ\text{C}$			500	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu s$			33.0	V
Clamping Voltage	V_C	$I_{PP} = 9\text{A}$, $t_p = 8/20\mu s$		51.0	54.0	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4\text{A}$ $t_p = 0.2/100\text{ns}$		36.5		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16\text{A}$ $t_p = 0.2/100\text{ns}$		44.0		V
Dynamic Resistance ^{1,2}	R_{DYN}	$TLP = 0.2/100\text{ns}$		0.6		Ω
Junction Capacitance	C_j	$V_R = 0\text{V}$, $f = 1\text{MHz}$		1.0	1.5	pF

Notes : 1、TLP Setting : $t_p = 100\text{ns}$, $t_r = 0.2\text{ns}$, I_{TLP} and V_{TLP} sample window: $t_1 = 70\text{ns}$ to $t_2 = 90\text{ns}$.

2、Dynamic resistance calculated from $I_{PP} = 4\text{A}$ to $I_{PP} = 16\text{A}$ using "Best Fit".

Ver.: A1 2019-02-22 WA

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

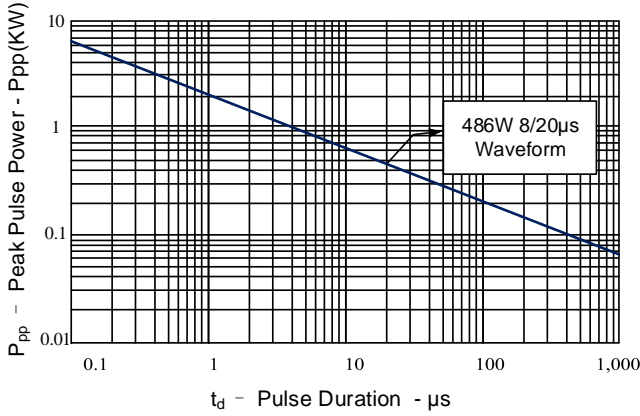


Figure 2: Power Derating Curve

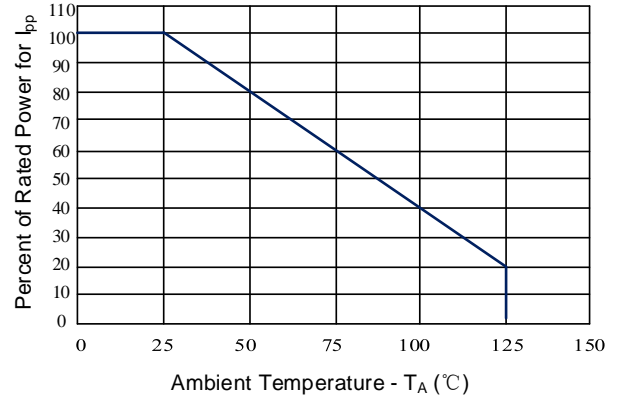


Figure 3: Clamping Voltage vs. Peak Pulse Current

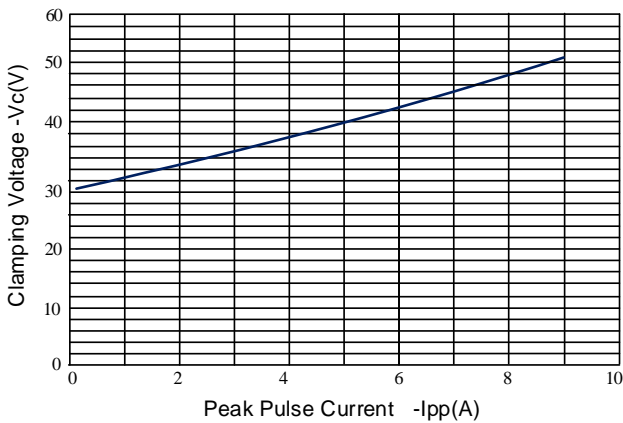


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

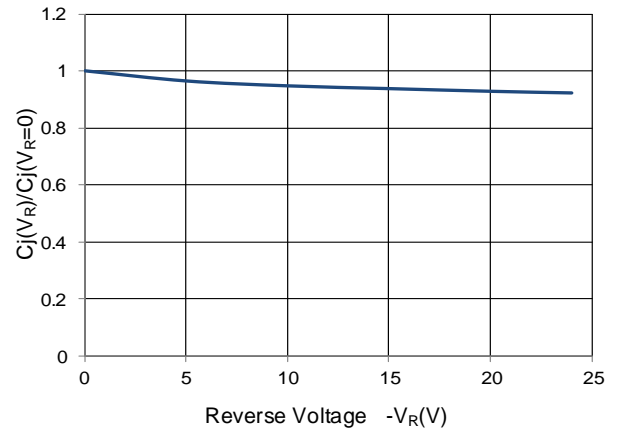


Figure 5: TLP Positive I-V Curve

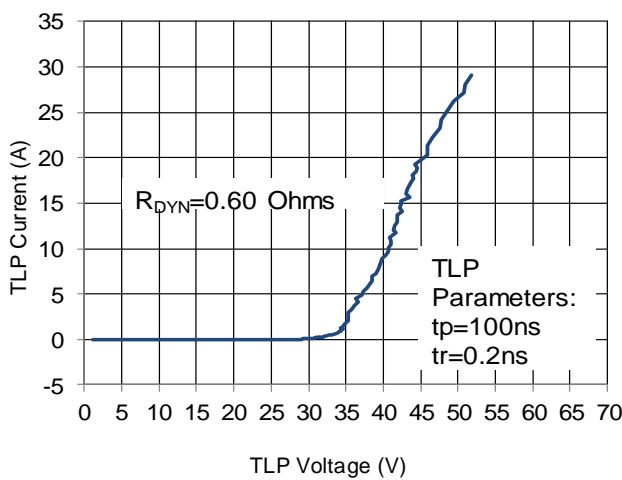
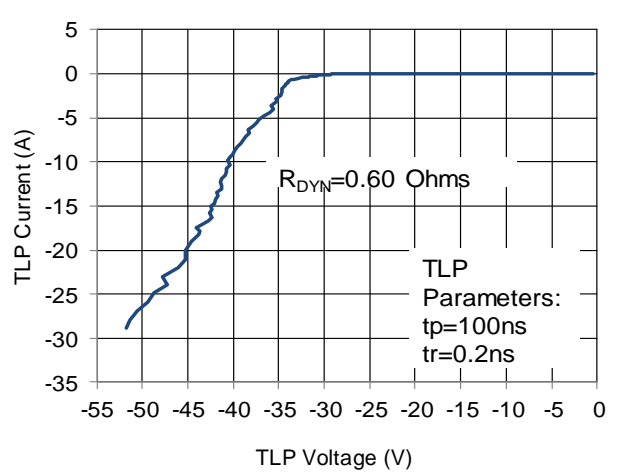
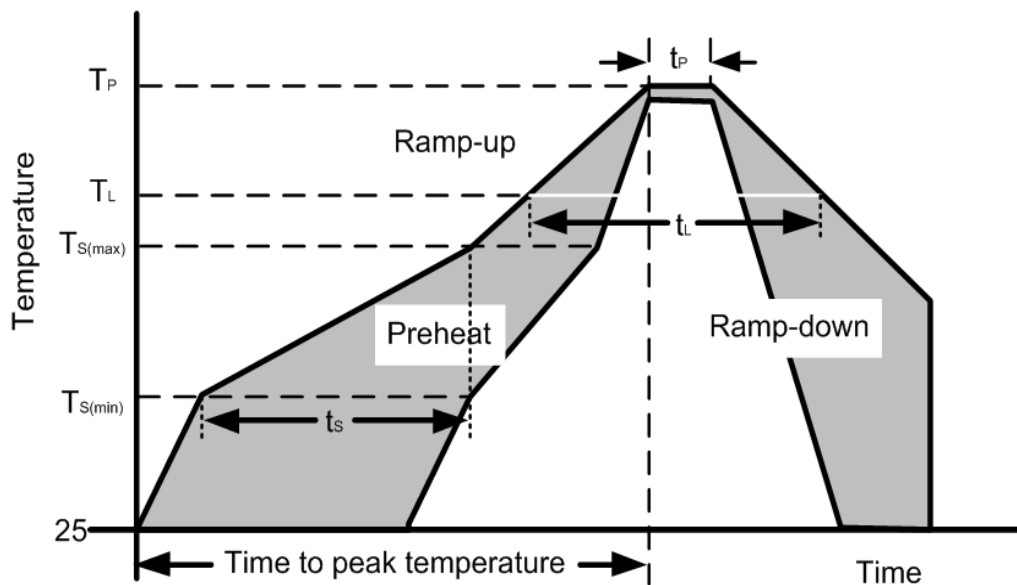


Figure 6: TLP Negative I-V Curve

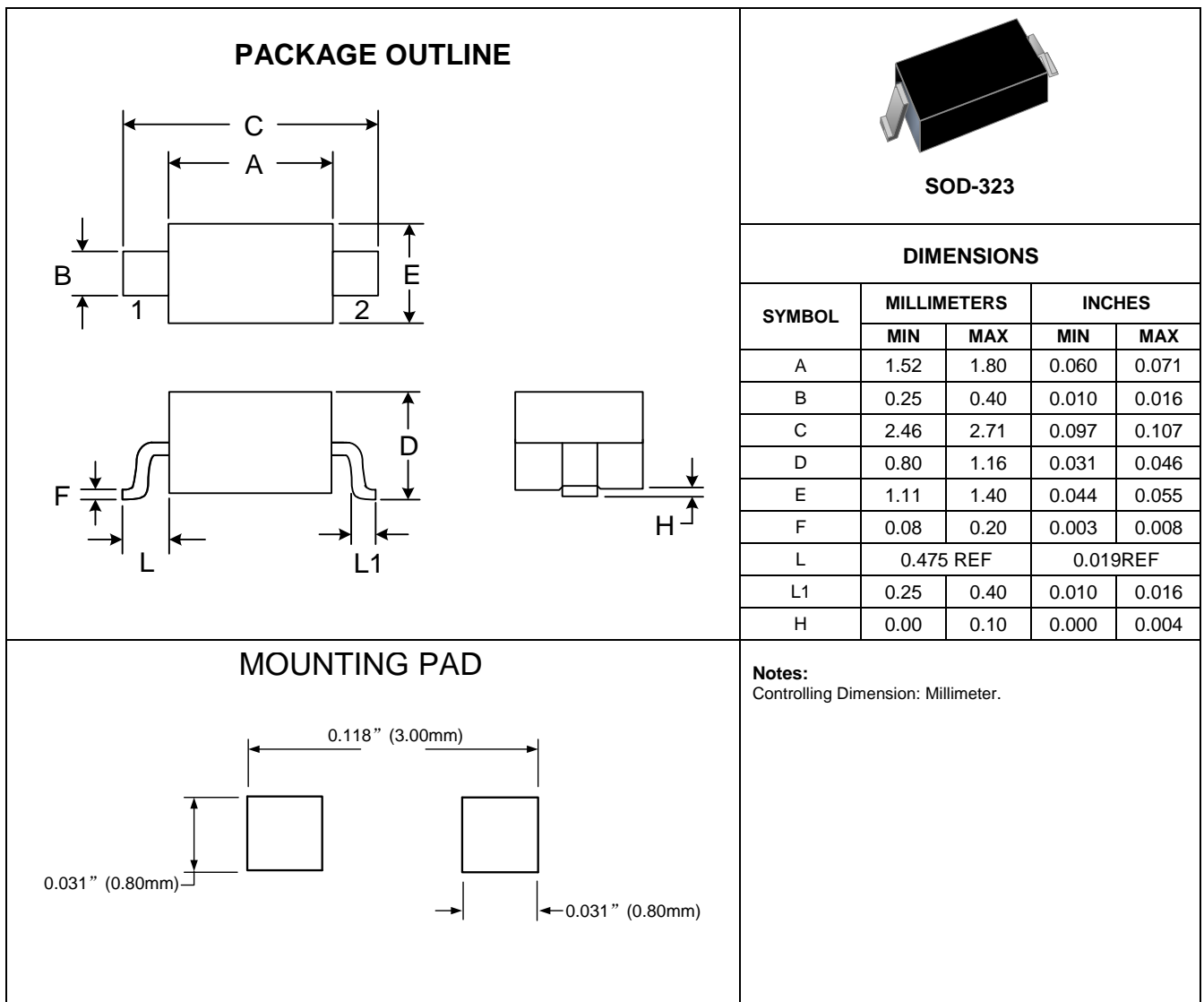


Soldering Parameters

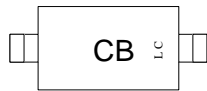
Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{S(min)}$)	150°C
	Temperature Max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L —Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C



Outline Drawing – SOD-323



Marking Codes

Part Number	Marking Code
DW24DLC-B-AT-S	

Package Information

Qty: 3k/Reel