Description

This transient overvoltage suppressor is intended to product sensitive equipment against electrostatic discharge events as well to offer a minimum insertion loss in data transmission lines in communications ports used in portable consumer, computing and networking applications. This dual transient voltage suppressor comes in a single SOT-23, offering board space reduction, where the application requires it .

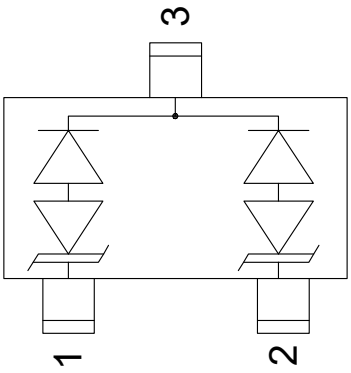
Features

- 400W peak pulse power(8/20μs)
- Ultra low capacitance
- Green molding compound as per IEC 61249 Std..(Halogen Free)
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±15kV
  Contact discharge: ±8kV
- RoHS Compliant

Mechanical Characteristics

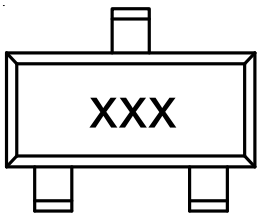
- Package: SOT-23
- Lead Finish: Plastic
- Case Material: “Green” Molding Compound.
- Terminals: solderable per MIL-STD-750, Method 2026
- Marking Information: See Below

Dimensions and Pin Configuration



Circuit and Pin Schematic

Marking Information



xxx= Device Marking Code

Ordering Information

Part Number	Marking	Packaging	Reel Size
DJDLCxx	xxx	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20μs)	Ppk	400	W
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±15 ±8	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

DJDLC03 （Marking Code： DL3）

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			3.3	V	
Reverse Breakdown Voltage	V_{BR}	4			V	I_T = 1mA
Reverse Leakage Current	I_R			50	μA	V_{RWM} = 3.3V
Clamping Voltage	V_C			6.5	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			8	V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			1.2	pF	VR=0, f=1MHz, Between pin1,2 to 3

DJDLC05 （Marking Code： T2S）

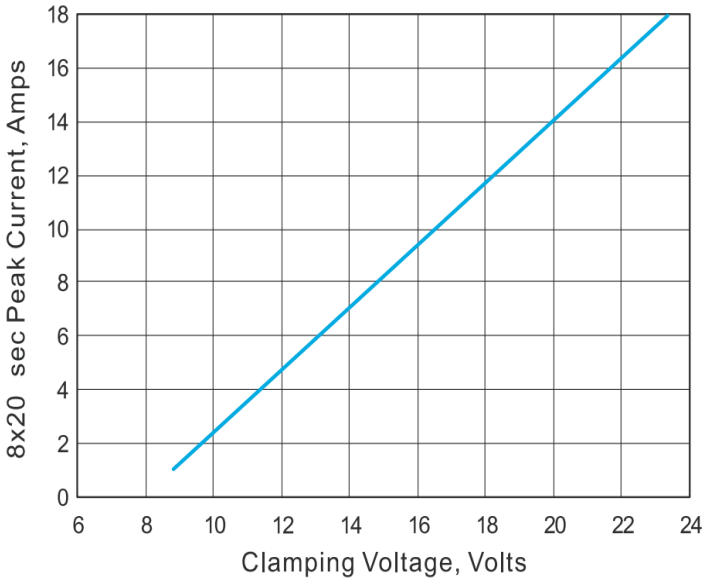
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Reverse Breakdown Voltage	V_{BR}	6			V	I_T = 1mA
Reverse Leakage Current	I_R			20	μA	V_{RWM} = 5V
Clamping Voltage	V_C			9.8	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			11	V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			1.0	pF	VR=0, f=1MHz, Between pin1,2 to 3

DJDLC12 （Marking Code： DJ2）						
Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	**Test Condition**
Reverse Working Voltage	V_{RWM}			12	V	
Reverse Breakdown Voltage	V_{BR}	13.3			V	I_T = 1mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 12V
Clamping Voltage	V_C			19	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			24	V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			1.0	pF	VR=0, f=1MHz, Between pin1,2 to 3

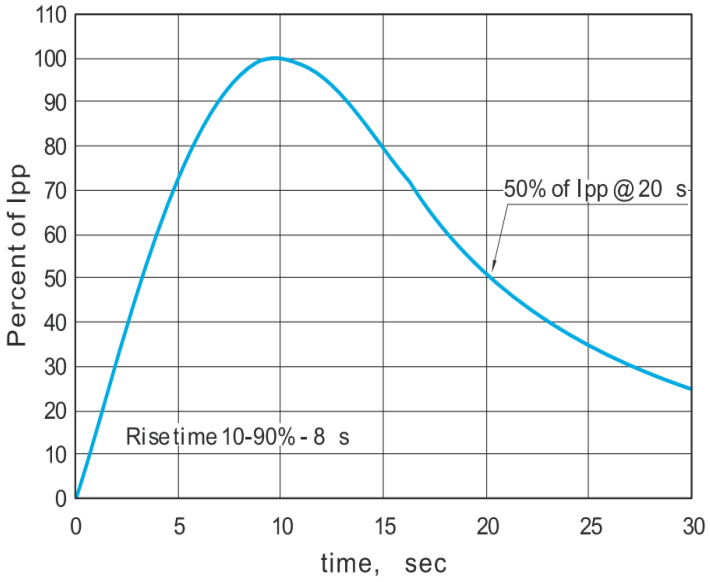
DJDLC15 （Marking Code： DJ5）						
Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	**Test Condition**
Reverse Working Voltage	V_{RWM}			15	V	
Reverse Breakdown Voltage	V_{BR}	16.7			V	I_T = 1mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 15V
Clamping Voltage	V_C			24	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			30	V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			1.2	pF	VR=0, f=1MHz, Between pin1,2 to 3

DJDLC24 （Marking Code： DJ4）						
Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	**Test Condition**
Reverse Working Voltage	V_{RWM}			24	V	
Reverse Breakdown Voltage	V_{BR}	26.7			V	I_T = 1mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 24V
Clamping Voltage	V_C			43	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			55	V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			1.0	pF	VR=0, f=1MHz, Between pin1,2 to 3

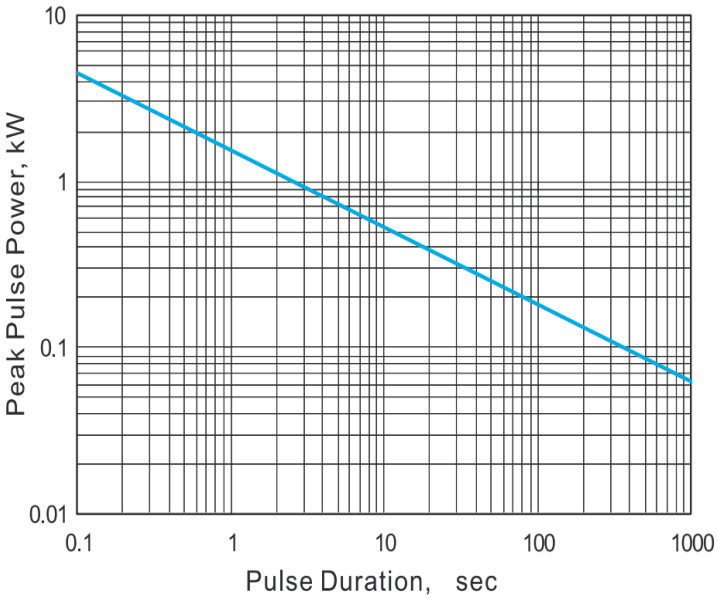
Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)



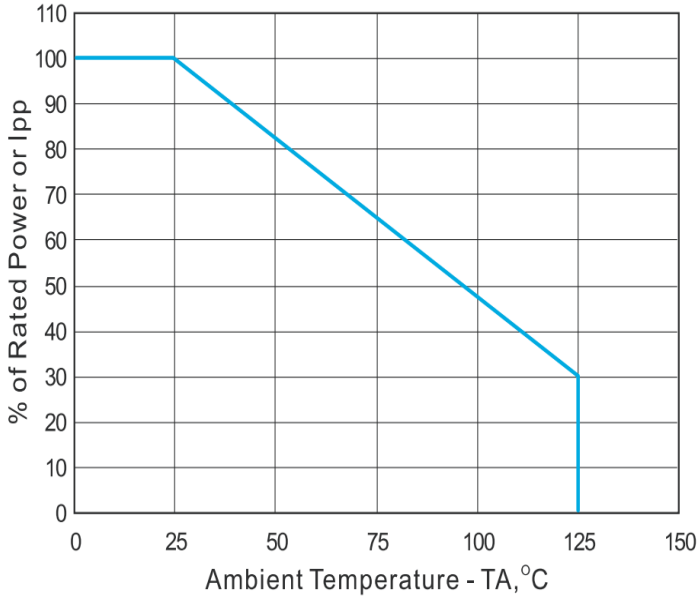
Clamping Voltage vs Ipp 8x20 sec



Pulse Waveform

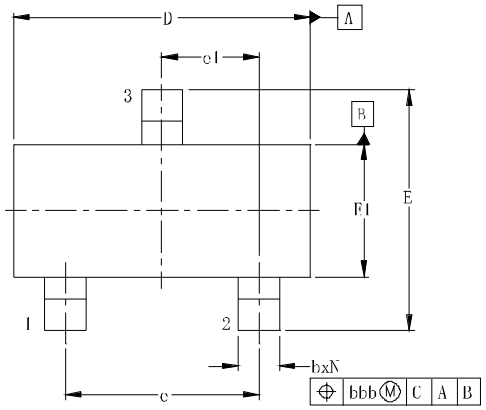


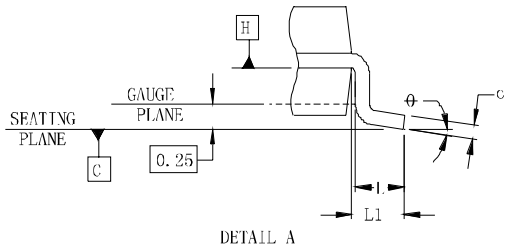
Non-Repetitive Peak Pulse Power vs Pulse Time

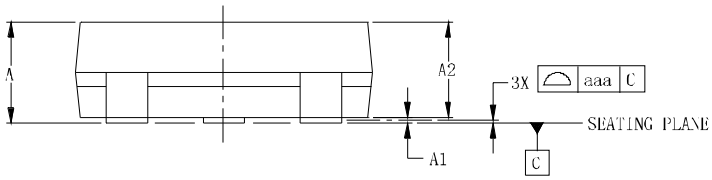


Power Derating Curve

SOT-23 Package Outline Drawing

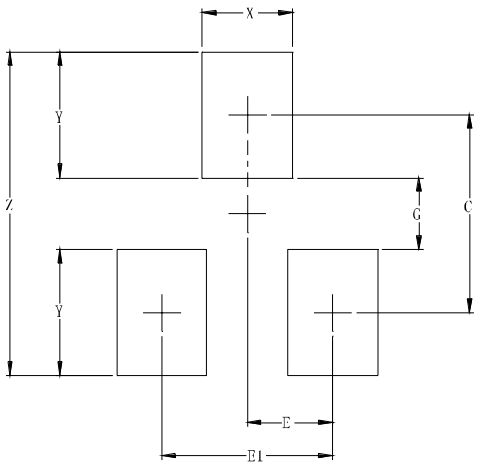






DIMENSIONS						
SYM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.035	-	0.044	0.89	-	1.12
A1	0.000	-	0.004	0.01	-	0.10
A2	0.035	0.037	0.040	0.88	0.95	1.02
b	0.012	-	0.020	0.30	-	0.51
c	0.003	-	0.007	0.08	-	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.90BSC		
e1	0.037			0.95BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	0.022			0.55		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	0.004			0.10		
bbb	0.008			0.20		

Suggested Land Pattern



DIMENSIONS		
SYM	INCHES	MILLIMETERS
C	0.087	2.20
E	0.037	0.95
E1	0.075	1.90
G	0.031	0.80
X	0.039	1.00
Y	0.055	1.40
Z	0.141	3.60

Contact Information

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