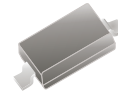


NACPDV1524V-HF

RoHS Device
Halogen Free

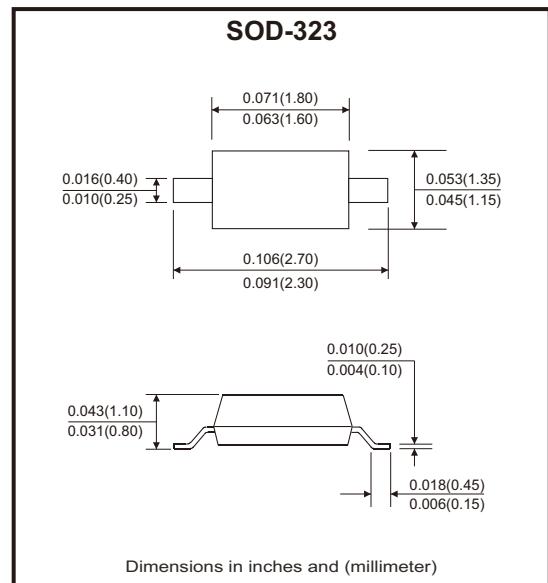


Features

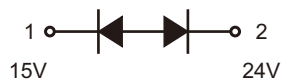
- ESD protection of one automotive LIN-bus line.
- Low clamping voltage.
- Ultra low leakage current.
- IEC 61000-4-2, level 4 (ESD).
- IEC 61000-4-5 (surge), IPP=3A at tp=8/20μs.
- MIL-STD-883 (human body model) 10kV.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOD-323, molded plastic.
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.



Circuit Diagram



Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power (Note 1)	T _P = 8/20μs, Pin 2 to Pin 1 (24V)	P _{PP}	210	W
Peak pulse current (Note 1)		I _{PP}	3	A
Peak pulse power (Note 1)	T _P = 8/20μs, Pin 1 to Pin 2 (15V)	P _{PP}	220	W
Peak pulse current (Note 1)		I _{PP}	5	A
ESD capability (Note 2)	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±30 ±23	kV
Operation junction temperature range		T _J	-55 to +150	°C
Storage temperature range		T _{STG}	-65 to +150	°C

Notes: 1. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC 61000-4-5.

2. Device stressed with ten non-repetitive ESD pulse.

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions		Symbol	Min	Typ	Max	Unit
Working peak reverse voltage	Pin 2 to Pin 1		V_{RWM}			24	V
Reverse leakage current		$V_{RWM} = 24V$	I_R		1	50	nA
Breakdown voltage		$I_R = 5mA$	V_{BR}	25.4	27.8	30.3	V
Clamping voltage		$I_{PP} = 1A, T_P = 8/20\mu s$	V_C			40	V
		$I_{PP} = 3A, T_P = 8/20\mu s$	V_C			70	
Differential resistance		$I_R = 1mA$	r_{dif}			300	Ω
Working peak reverse voltage	Pin 1 to Pin 2		V_{RWM}			15	V
Reverse leakage current		$V_{RWM} = 15V$	I_R		1	50	nA
Breakdown voltage		$I_R = 5mA$	V_{BR}	17.1	18.9	20.3	V
Clamping voltage		$I_{PP} = 1A, T_P = 8/20\mu s$	V_C			25	V
		$I_{PP} = 5A, T_P = 8/20\mu s$	V_C			44	
Differential resistance		$I_R = 1mA$	r_{dif}			225	Ω
Junction capacitance	$V_R = 0V, f = 1MHz$		C_J		13	17	pF

Note: Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.

Typical Rating and Characteristic Curves (NACPDV1524V-HF)

Fig.1 - 8/20 μ s Pulse Waveform According to IEC 61000-4-5

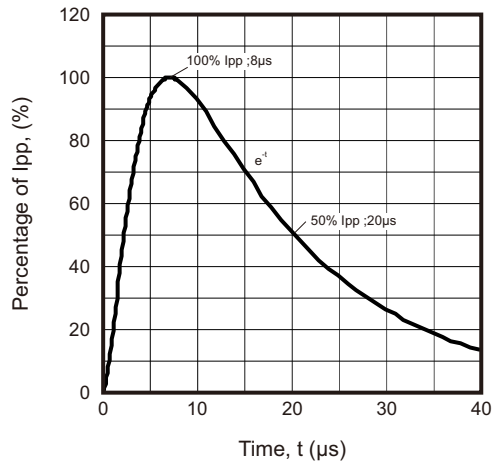


Fig.2 - ESD Pulse Waveform According to IEC 61000-4-2

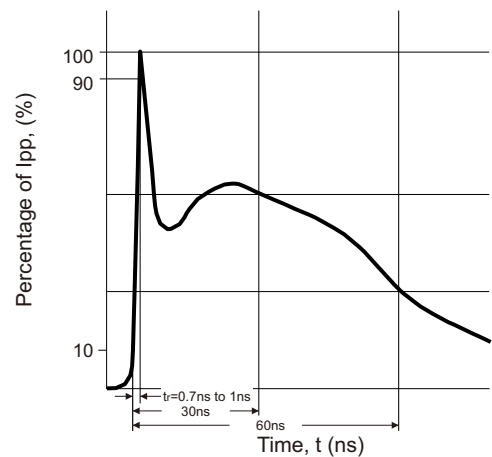


Fig.3 - Peak Pulse Power as a Function of Exponential Pulse Duration; Typical Values

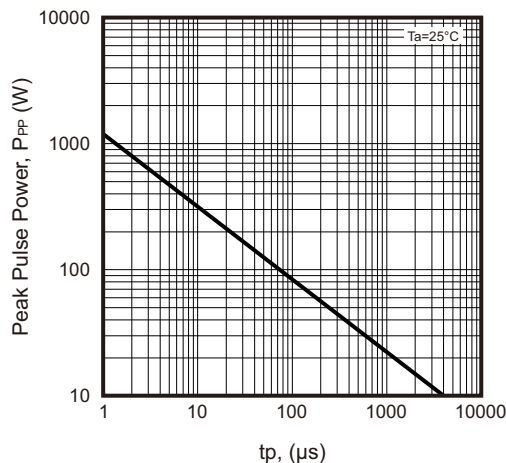
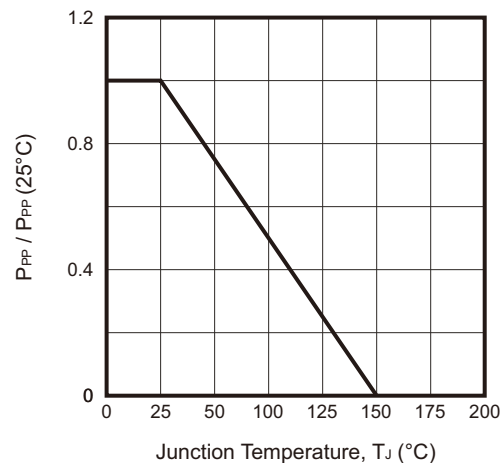
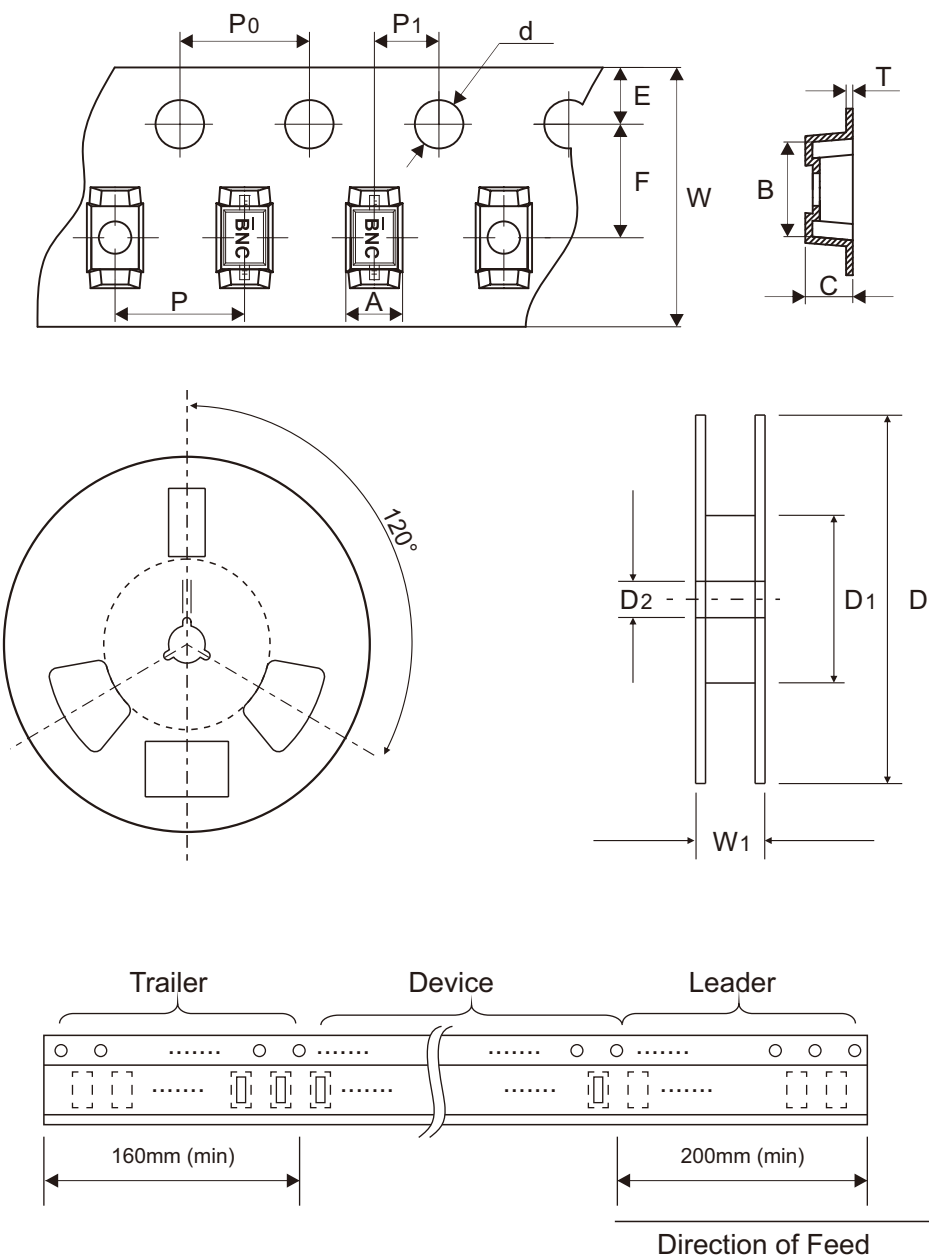


Fig.4 - Relative Variation of Peak Pulse Power as a Function of Junction Temperature; Typical Values



Reel Taping Specification



SOD-323	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.52 ± 0.10	2.90 ± 0.10	1.35 ± 0.10	$1.50 + 0.10 - 0.00$	178.00 ± 1.00	60.00 ± 1.00	$13.00 + 0.50 - 0.20$
	(inch)	0.060 ± 0.004	0.114 ± 0.004	0.053 ± 0.004	$0.059 + 0.004 - 0.000$	7.008 ± 0.039	2.362 ± 0.039	$0.512 + 0.020 - 0.008$

SOD-323	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	$8.00 + 0.30 - 0.10$	11.80 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.079 ± 0.002	$0.315 + 0.012 - 0.004$	0.465 ± 0.020

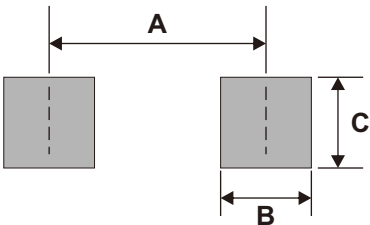
Marking Code

Part Number	Marking Code
NACPDV1524V-HF	$\overline{\text{BNC}}$



Suggested P.C.B. PAD Layout

SIZE	SOD-323	
	(mm)	(inch)
A	2.20	0.087
B	0.60	0.024
C	0.60	0.024



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-323	3,000	7