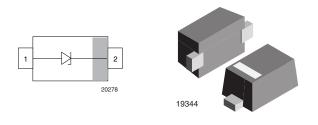
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Single ESD-Protection Diode in SOD-523



MARKING (example only)



Bar = cathode marking

X = date code

Y = type code (see table below)

FEATURES

- Single-line ESD-protection
- Low leakage current
- ESD-immunity acc. IEC 61000-4-2 ± 8 kV contact discharge ± 15 kV air discharge
- e3 Sn
- Material categorization: For definitions of compliance please see <u>www.vishav.com/doc?99912</u>





RoHS COMPLIANT GREEN (5-2008)

ORDERING INFORMATION							
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL (8 mm TAPE ON 7" REEL)	MINIMUM ORDER QUANTITY				
VESD01-02V	VESD01-02V-G-08	3000	3000				
VESD03-02V	VESD03-02V-G-08	3000	3000				
VESD05-02V	VESD05-02V-G-08	3000	3000				
VESD08-02V	VESD08-02V-G-08	3000	3000				
VESD12-02V	VESD12-02V-G-08	3000	3000				

PACKAGE DAT	PACKAGE DATA									
DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS				
VESD01-02V	SOD-523	. V	1.4 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals				
VESD03-02V	SOD-523	В.	1.4 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals				
VESD05-02V	SOD-523	С.	1.4 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals				
VESD08-02V	SOD-523	D.	1.4 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals				
VESD12-02V	SOD-523	. 11	1.4 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals				



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ABSOLUTE MAXIMUM	RATINGS VESD01-02V			
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	Acc. IEC 61000-4-5, 8/20 µs/single shot	I _{PPM}	7	A
Peak pulse power	Acc. IEC 61000-4-5, 8/20 µs/single shot	P _{PP}	63	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	M	± 8	kV
ESD minuting	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	± 15	kV
Operating temperature	Junction temperature	TJ	- 40 to + 125	°C
Storage temperature		T _{stg}	- 55 to + 150	°C

ABSOLUTE MAXIMUM RATINGS VESD03-02V						
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT		
Peak pulse current	Acc. IEC 61000-4-5, 8/20 µs/single shot	I _{PPM}	9	A		
Peak pulse power	Acc. IEC 61000-4-5, 8/20 µs/single shot	P _{PP}	108	W		
	Contact discharge acc. IEC 61000-4-2; 10 pulses	M	108 ± 8	kV		
ESD immunity	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	± 15	kV		
Operating temperature	Junction temperature	TJ	- 40 to + 125	°C		
Storage temperature		T _{stg}	- 55 to + 150	°C		

ABSOLUTE MAXIMUM	OLUTE MAXIMUM RATINGS VESD05-02V					
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT		
Peak pulse current	Acc. IEC 61000-4-5, 8/20 µs/single shot	I _{PPM}	6	А		
Peak pulse power	Acc. IEC 61000-4-5, 8/20 µs/single shot	P _{PP}	120	W		
	Contact discharge acc. IEC 61000-4-2; 10 pulses	M	± 8	kV		
ESD immunity	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	± 15	kV		
Operating temperature	Junction temperature	TJ	- 40 to + 125	°C		
Storage temperature		T _{stg}	- 55 to + 150	°C		

ABSOLUTE MAXIMU	M RATINGS VESD08-02V			
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	Acc. IEC 61000-4-5, 8/20 µs/single shot	I _{PPM}	4	А
Peak pulse power	Acc. IEC 61000-4-5, 8/20 µs/single shot	P _{PP}	120	W
	Contact discharge acc. IEC 61000-4-2; 10 pulses	N/	120 ± 8	kV
ESD immunity	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	± 15	kV
Operating temperature	Junction temperature	TJ	- 40 to + 125	°C
Storage temperature		T _{stg}	- 55 to + 150	°C

ABSOLUTE MAXIMUN	I RATINGS VESD12-02V			
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	Acc. IEC 61000-4-5, 8/20 µs/single shot	I _{PPM}	2	А
Peak pulse power	Acc. IEC 61000-4-5, 8/20 µs/single shot	P _{PP}	25	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	M	± 8	kV
ESD Infinding	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	± 15	kV
Operating temperature	Junction temperature	TJ	- 40 to + 125	°C
Storage temperature		T _{stg}	- 55 to + 150	°C

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ELECTRICAL CHARACTERISTICS VESD01-02V (T _{amb} = 25 °C, unless otherwise specified)								
PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT		
Protection paths	Number of lines which can be protected	N _{channel}	-	-	1	lines		
Reverse stand-off voltage	Max. reverse working voltage	V _{RWM}	-	-	1	V		
Reverse voltage	at I _R = 100 μA	V _R	1	-	-	V		
Reverse current	at V _R = 1 V	I _R	-	-	100	μA		
Reverse breakdown voltage	at I _R = 1 mA	V _{BR}	1.5	-	-	V		
Reverse clamping voltage	at I _{PP} (see fig. 1)	V _C	-	9	-	V		
Capacitance	at V _R = 0 V; f = 1 MHz	CD	-	180	-	pF		

ELECTRICAL CHARAC (T _{amb} = 25 °C, unless othe						
PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	N _{channel}	-	-	1	lines
Reverse stand-off voltage	Max. reverse working voltage	V _{RWM}	-	-	3	V
Reverse voltage	at I _R = 20 μA	V _R	3	-	-	V
Reverse current	at V _R = 3 V	I _R	-	-	20	μA
Reverse breakdown voltage	at I _R = 1 mA	V _{BR}	4	-	-	V
Reverse clamping voltage	at I _{PP} (see fig. 1)	V _C	-	12	-	V
Capacitance	at $V_R = 0 V$; f = 1 MHz	CD	-	110	-	pF

ELECTRICAL CHARACTERISTICS VESD05-02V (T _{amb} = 25 °C, unless otherwise specified)								
PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT		
Protection paths	Number of lines which can be protected	N _{channel}	-	-	1	lines		
Reverse stand-off voltage	Max. reverse working voltage	V _{RWM}	-	-	5	V		
Reverse voltage	at I _R = 0.1 μA	V _R	5	-	-	V		
Reverse current	at V _R = 5 V	I _R	-	-	0.1	μA		
Reverse breakdown voltage	at I _R = 1 mA	V _{BR}	6.5	-	-	V		
Reverse clamping voltage	at I _{PP} (see fig. 1)	V _C	-	20	-	V		
Capacitance	at $V_R = 0 V$; f = 1 MHz	CD	-	55	-	pF		

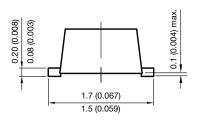
ELECTRICAL CHARACTERISTICS VESD08-02V (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT	
Protection paths	Number of lines which can be protected	N _{channel}	-	-	1	lines	
Reverse stand-off voltage	Max. reverse working voltage	V _{RWM}	-	-	8	V	
Reverse voltage	at I _R = 0.1 μA	V _R	8	-	-	V	
Reverse current	at V _R = 8 V	I _R	-	-	0.1	μA	
Reverse breakdown voltage	at I _R = 1 mA	V _{BR}	9	-	-	V	
Reverse clamping voltage	at I _{PP} (see fig. 1)	V _C	-	30	-	V	
Capacitance	at $V_R = 0 V$; f = 1 MHz	CD	-	35	-	pF	

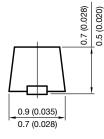
ELECTRICAL CHARAC ($T_{amb} = 25 \text{ °C}$, unless other						
PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	N _{channel}	-	-	1	lines
Reverse stand-off voltage	Max. reverse working voltage	V _{RWM}	-	-	12	V
Reverse voltage	at I _R = 0.1 μA	V _R	12	-	-	V
Reverse current	at V _R = 12 V	I _R	-	-	0.1	μA
Reverse breakdown voltage	at I _R = 1 mA	V _{BR}	14	-	-	V
Reverse clamping voltage	at I _{PP} (see fig. 1)	V _C	-	25	-	V
Capacitance	at $V_R = 0 V$; f = 1 MHz	CD	-	30	-	pF

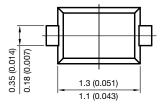


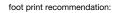
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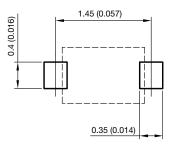
PACKAGE DIMENSIONS in millimeters (Inches): SOD-523











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