



ESDA14V2BP6

Application Specific Discretes
A.S.D.™

TRANSIL™

MAIN APPLICATIONS

Where transient overvoltage protection in ESD sensitive equipment is required, such as :

- Computers
- Printers
- Communication systems and cellular phones
- Video equipment

This device is particularly adapted to the protection of symmetrical signals.

FEATURES

- 4 Bidirectional Transil™ functions.
- ESD Protection: IEC61000-4-2 level 4
- Stand off voltage: 12V MIN
- Low leakage current < 1μA

DESCRIPTION

The ESDA14V2BP6 is a monolithic array designed to protect up to 4 lines in a bidirectional way against ESD transients.

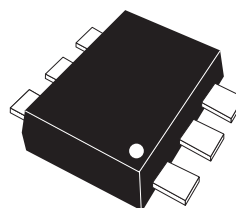
This device is ideal for applications where board space saving is required.

BENEFITS

- High ESD protection level.
- High integration.
- Suitable for high density boards.

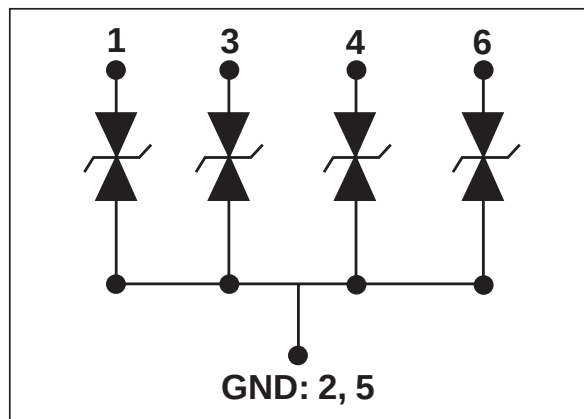
COMPLIES WITH THE FOLLOWING STANDARDS :

- **IEC61000-4-2 level 4:** 15 kV (air discharge)
8 kV (contact discharge)
- **MIL STD 883E-Method 3015-7:** class 3
25kV HBM (Human Body Model)



SOT-666

FUNCTIONAL DIAGRAM



ESDA14V2BP6

ABSOLUTE RATINGS ($T_{amb} = 25^{\circ}\text{C}$)

Symbol	Parameter	Test conditions	Value	Unit
V_{PP}	ESD discharge - IEC61000-4-2 air discharge IEC61000-4-2 contact discharge		± 15 ± 8	kV
P_{PP}	Peak pulse power dissipation(8/20 μs). Note 1	$T_j \text{ initial} = T_{amb}$	50	W
T_j	Junction temperature		125	$^{\circ}\text{C}$
T_{stg}	Storage temperature range		- 55 to + 150	$^{\circ}\text{C}$
T_L	Maximum lead temperature for soldering during 10s at 5mm for case		260	$^{\circ}\text{C}$
T_{op}	Operating temperature range		- 40 to + 125	$^{\circ}\text{C}$

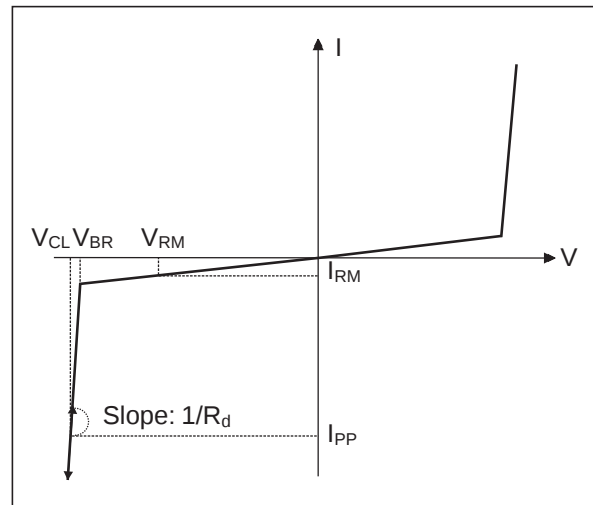
Note 1: for a surge greater than the maximum values, the diode will fail in short-circuit.

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient on printed circuit on recommended pad layout	220	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$)

Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_{RM}	Leakage current @ V_{RM}
I_{PP}	Peak pulse current
αT	Voltage tempature coefficient
V_F	Forward voltage drop



Types	$I_{RM} @ V_{RM}$		$V_{BR} @ I_R$		R_d	αT	C
	max.		min.	max.	typ.	typ.	max.
	μA	V	V	V	Ω	$10^{-4}/^{\circ}\text{C}$	pF @ 0V
ESDA14V2BP6	1	12	14.2	18	1	5.8	25
	0.1	3					

Fig. 1: Relative variation of peak pulse power versus initial junction temperature.

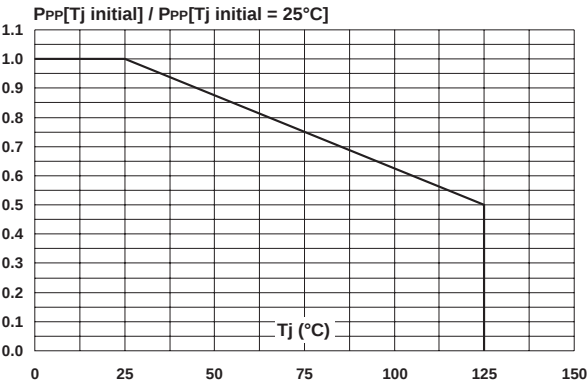


Fig. 2: Peak pulse power versus exponential pulse duration.

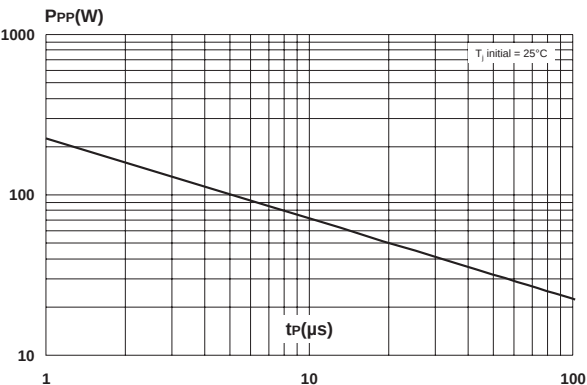


Fig. 3: Clamping voltage versus peak pulse current (typical values, rectangular waveform).

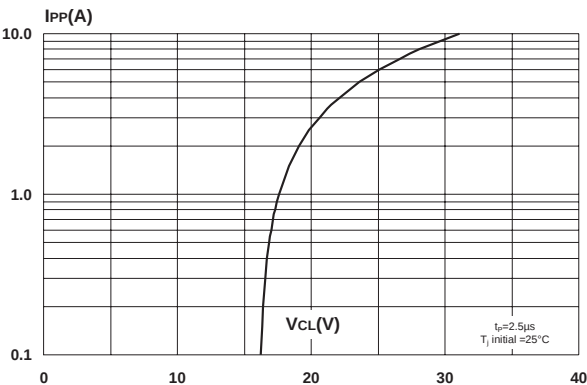


Fig. 4: Junction capacitance versus reverse voltage applied (typical values).

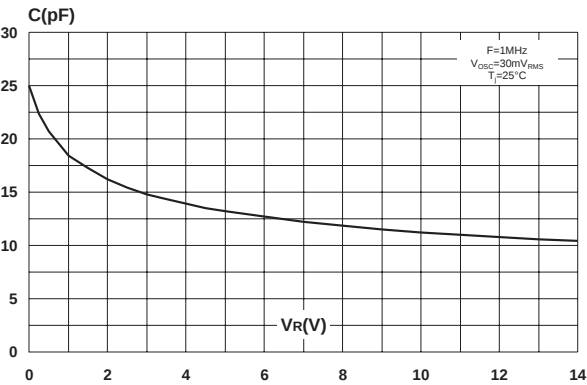
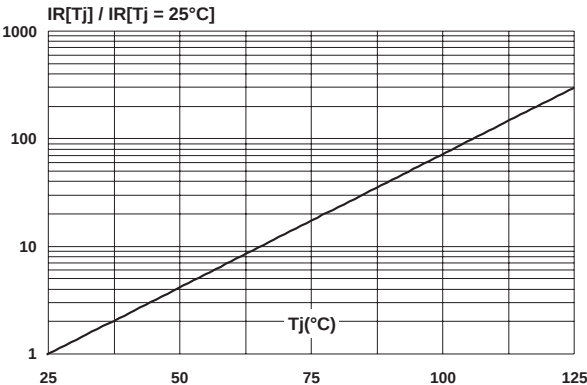
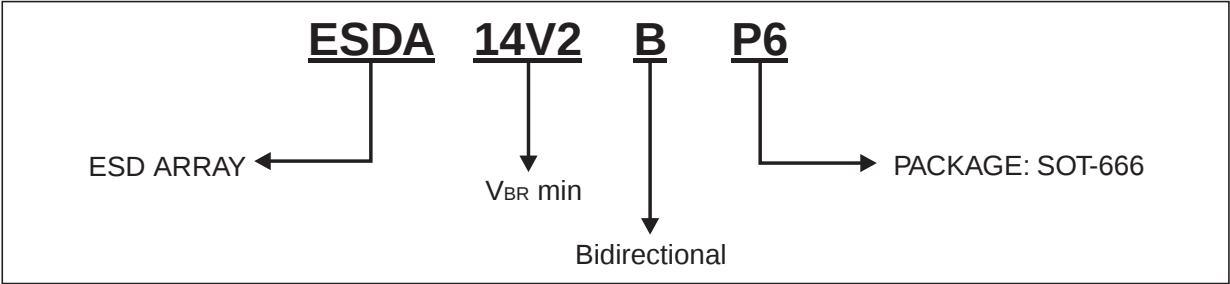


Fig. 5: Relative variation of leakage current versus junction temperature (typical values).



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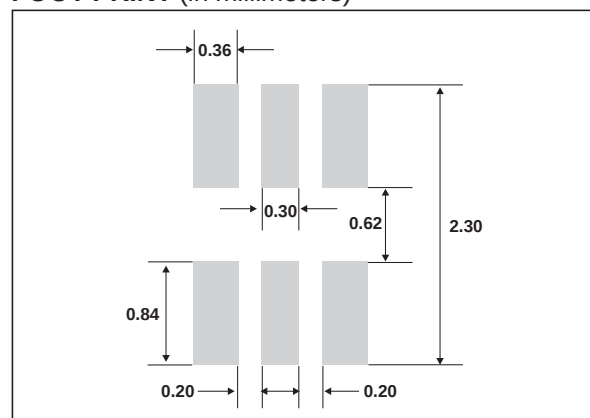
ORDER CODE



Ordering type	Marking	Package	Weight	Base qty	Delivery mode
ESDA14V2BP6	A	SOT-666	2.9 mg.	3000	Tape & reel 7"

PACKAGE MECHANICAL DATA
SOT-666

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.60	0.020	0.024
bp	0.17	0.27	0.007	0.011
c	0.08	0.18	0.003	0.007
D	1.50	1.70	0.060	0.067
E	1.10	1.30	0.043	0.051
e	1.00		0.040	
e1	0.50		0.020	
He	1.50	1.70	0.059	0.067
Lp	0.10	0.30	0.004	0.012

FOOT PRINT (in millimeters)


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