SGS-THOMSON MICROELECTRONICS

ADB18PS

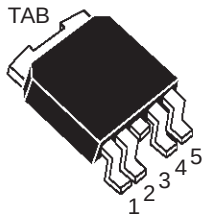
Application Specific Discretes
A.S.D.™

AUTOPROTECTED DIODE BRIDGE

MAIN APPLICATIONS

Any electronic equipment needing a diode bridge and protection against transient overvoltage :

- Caller Id
- Handset



PPAK-5L

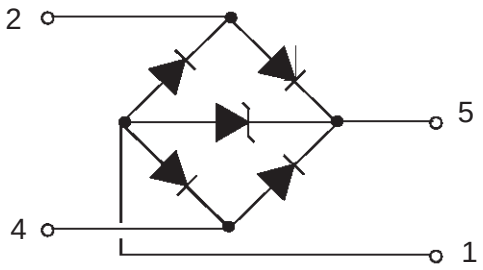
DESCRIPTION

The ADB18PS combines a diode bridge and a clamping protection function.

Integrated monolithically within a SMD package, this device allows space saving and greater reliability.

It provides both rectification and protection for low power equipment directly supplied by mains.

PIN-OUT CONFIGURATION



Pin	Description
1	DC output
2	AC input
3	Not accessible
4	AC input
5	DC output
TAB	Not to be connected

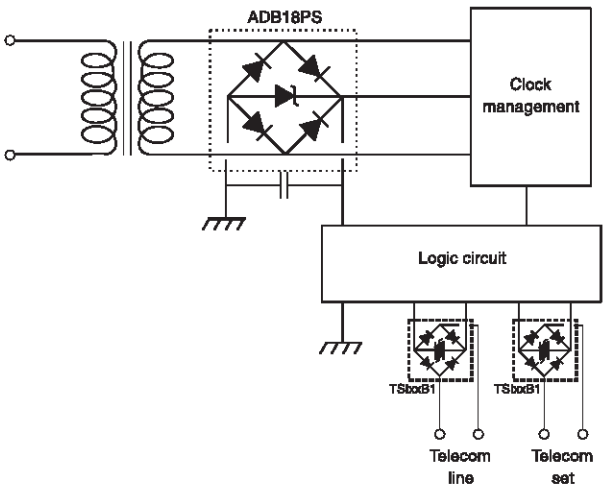
FEATURES

- Peak pulse power dissipation 100 W (8/20 µs)
- Stand-off voltage : 18 V
- Maximum DC current : 0.5 A
- Clamping voltage : V_{CL} < 50 V (8/20 µs)

BENEFITS

- Protection combined with rectification
- High reliability confered by monolithic construction
- Space saving
- Cost effective solution

APPLICATION CIRCUIT : Caller Id interface



ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

Symbol	Parameter	Test conditions	Value	Unit
P_{PP}	Peak pulse power dissipation (one pulse)	8 / 20 µs	100	W
P	Power dissipation	T_{case} = 70 °C	20	W
V_{RRM}	Repetitive peak reverse voltage		18	V
I_{PP}	Peak pulse reverse current (one pulse)	8 / 20 µs	2	A
I_F	Forward current for one diode		0.5	A
I_{FSM}	Non repetitive surge peak forward current	t_p = 8.3 ms t_p= 10 ms	8 7.5	A
T_{stg}	Storage temperature range		-40 to 150	°C
T_j	Maximum junction temperature		150	°C

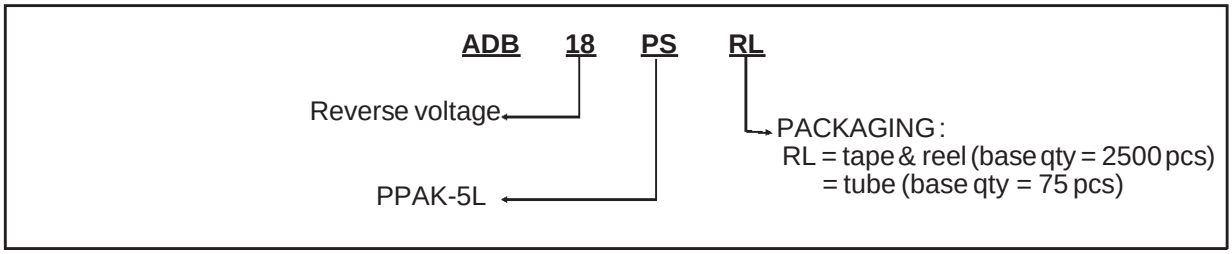
ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C).

Symbol	Parameter	Test conditions	Typ	Max	Unit
V_{CL}	Clamping voltage I_{PP} = 2 A	8 / 20 µs		50	V
I_{RM}	Leakage current	V_{RM} = 18 V		2	µA
V_F	Forward voltage for one diode	I_F = 500 mA		1.4	V
C	Capacitance	V_R = 0 V, F= 1 MHz	50		pF

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient on FR4 (0.5 cm^2)	80	°C/W
$R_{th(j-a)}$	Junction to ambient on IMS (17 cm^2)	30	°C/W
$R_{th(j-c)}$	Junction to case	4	°C/W

ORDER CODE

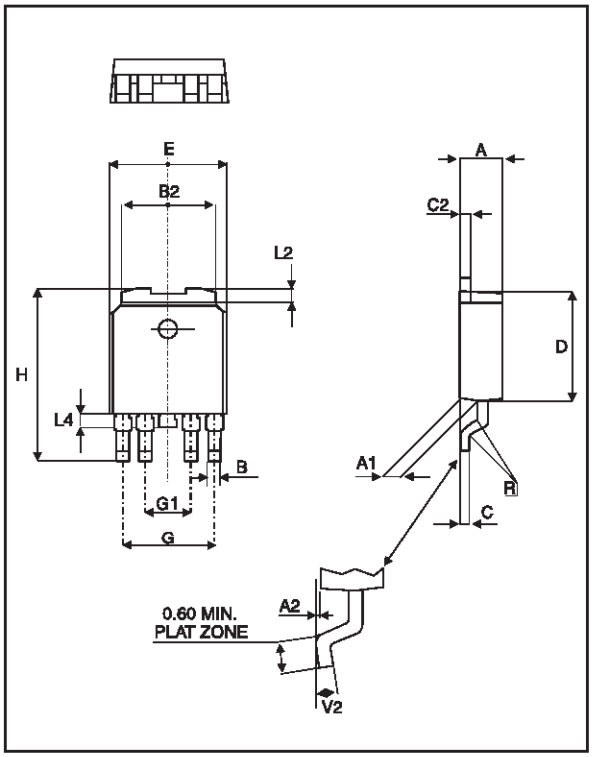


MARKING

Package	Type	Marking
PPAK-5L	ADB18PS	ADB18

PACKAGE MECHANICAL DATA

PPAK-5L



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max	Min.	Typ.	Max.
A	2.20		2.40	0.0866		0.0945
A1	0.90		1.10	0.0354		0.0433
A2	0.03		0.23	0.0001		0.0009
B	0.4		0.90	0.0157		0.0236
B2	5.20		5.40	0.2047		0.2126
C	0.45		0.60	0.0177		0.0236
C2	0.48		0.60	0.0188		0.0236
D	6.00		6.20	0.2362		0.2441
E	6.40		6.60	0.2519		0.2598
G	4.9		5.25	0.1929		0.2067
G1	2.38		2.7	0.0937		0.1063
H	9.35		10.10	0.369		0.3977
L2		0.80	1.00		0.0314	0.0393
L4	0.60		1.00	0.0236		0.0393
R		0.2			0.0078	
V2	0°		8°	0°		8°