

### MAIN APPLICATIONS

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

- Caller Id
- Handset

### 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.

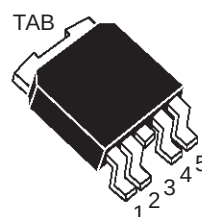
It provides both rectification and protection for low power equipment directly supplied by mains.

### FEATURES

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

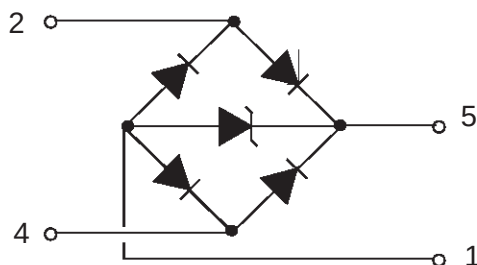
### BENEFITS

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



**PPAK-5L**

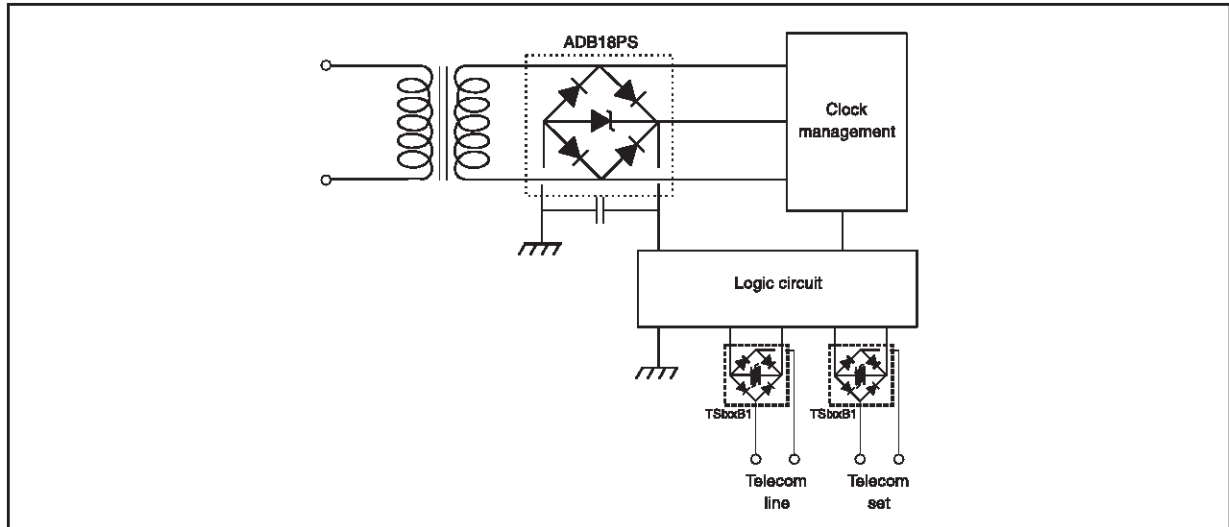
### PIN-OUT CONFIGURATION



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

## ADB18PS

### APPLICATION CIRCUIT : Caller Id interface



### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

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

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

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

### THERMAL RESISTANCES

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

## ORDER CODE

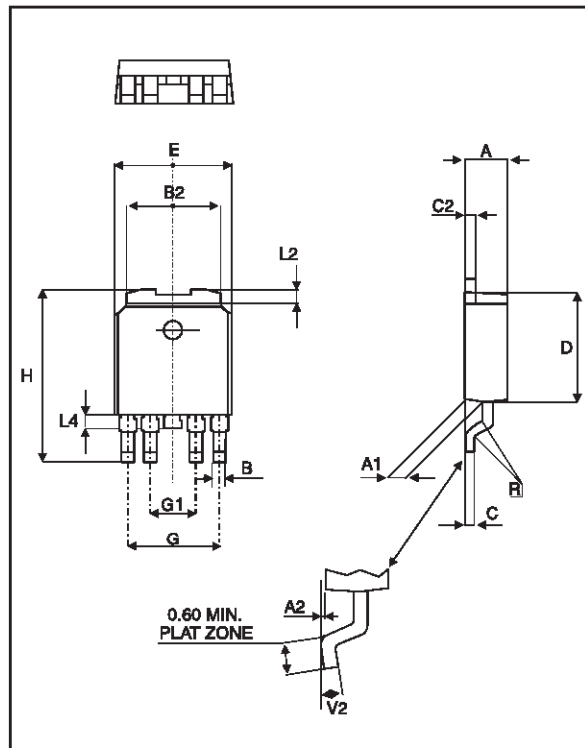
|                 |           |                                        |           |
|-----------------|-----------|----------------------------------------|-----------|
| <b>ADB</b>      | <b>18</b> | <b>PS</b>                              | <b>RL</b> |
| Reverse voltage |           | PACKAGING :                            |           |
| PPAK-5L         |           | RL = tape & reel (base qty = 2500 pcs) |           |
|                 |           | = tube (base qty = 75 pcs)             |           |

## 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°     |

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