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POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

| | |
|-------------------|-----------------|
| $I_{F(AV)}$ | 2 x 10 A |
| V_{RRM} | 60 V |
| $V_F(\text{max})$ | 0.58 V |

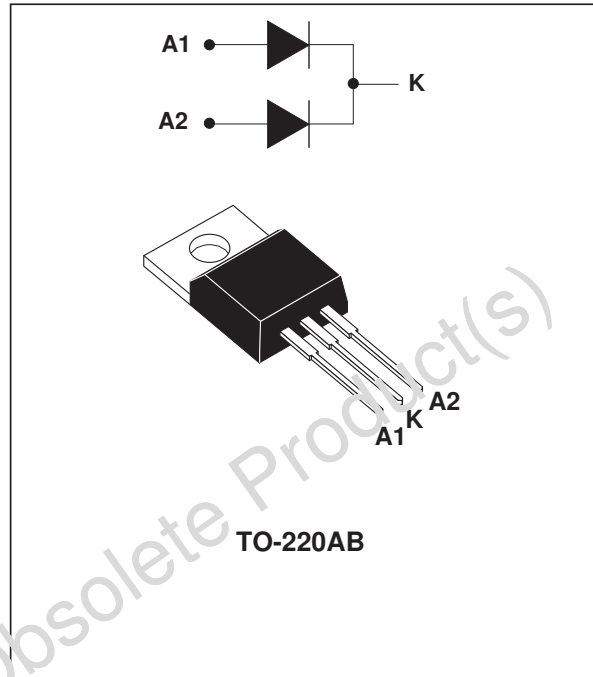
FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD DROP VOLTAGE
- LOW CAPACITANCE
- HIGH REVERSE AVALANCHE SURGE CAPABILITY

DESCRIPTION

High voltage dual Schottky rectifier suited to Switch Mode Power Supplies and other Power Converters.

Packaged in TO-220AB, this device is intended for use in medium voltage operation, and particularly, in high frequency circuitries where low switching losses are required.



ABSOLUTE RATINGS (limiting values)

| Symbol | Parameter | Value | Unit |
|--------------|--|---|-------------|
| V_{RRM} | Repetitive peak reverse voltage | 60 | V |
| $I_{F(RMS)}$ | RMS forward current | Per diode 30 | A |
| $I_{F(AV)}$ | Average forward current | $T_{case} = 120^{\circ}C$ Per diode $V_R = 60V$ Per device $\delta = 0.5$ 10 20 | A |
| I_{FSM} | Surge non repetitive forward current | $t_p = 10\text{ ms}$ Sinusoidal Per diode | 200 A |
| I_{RRM} | Repetitive peak reverse current | $t_p = 2\ \mu s$ $F = 1\text{ kHz}$ Per diode | 1 A |
| I_{RSM} | Non repetitive peak reverse current | $t_p = 100\ \mu s$ Per diode | 1 A |
| T_{stg} | Storage temperature range | - 65 to + 150 | $^{\circ}C$ |
| T_j | Maximum junction temperature | 150 | |
| dV/dt | Critical rate of rise of reverse voltage | 10000 | V/ μs |

THERMAL RESISTANCES

| Symbol | Parameter | | Value | Unit |
|----------------------|------------------|-----------|-------|------|
| R _{th(j-c)} | Junction to case | Per diode | 1.6 | °C/W |
| | | Total | 0.9 | |
| R _{th(c)} | | Coupling | 0.15 | °C/W |

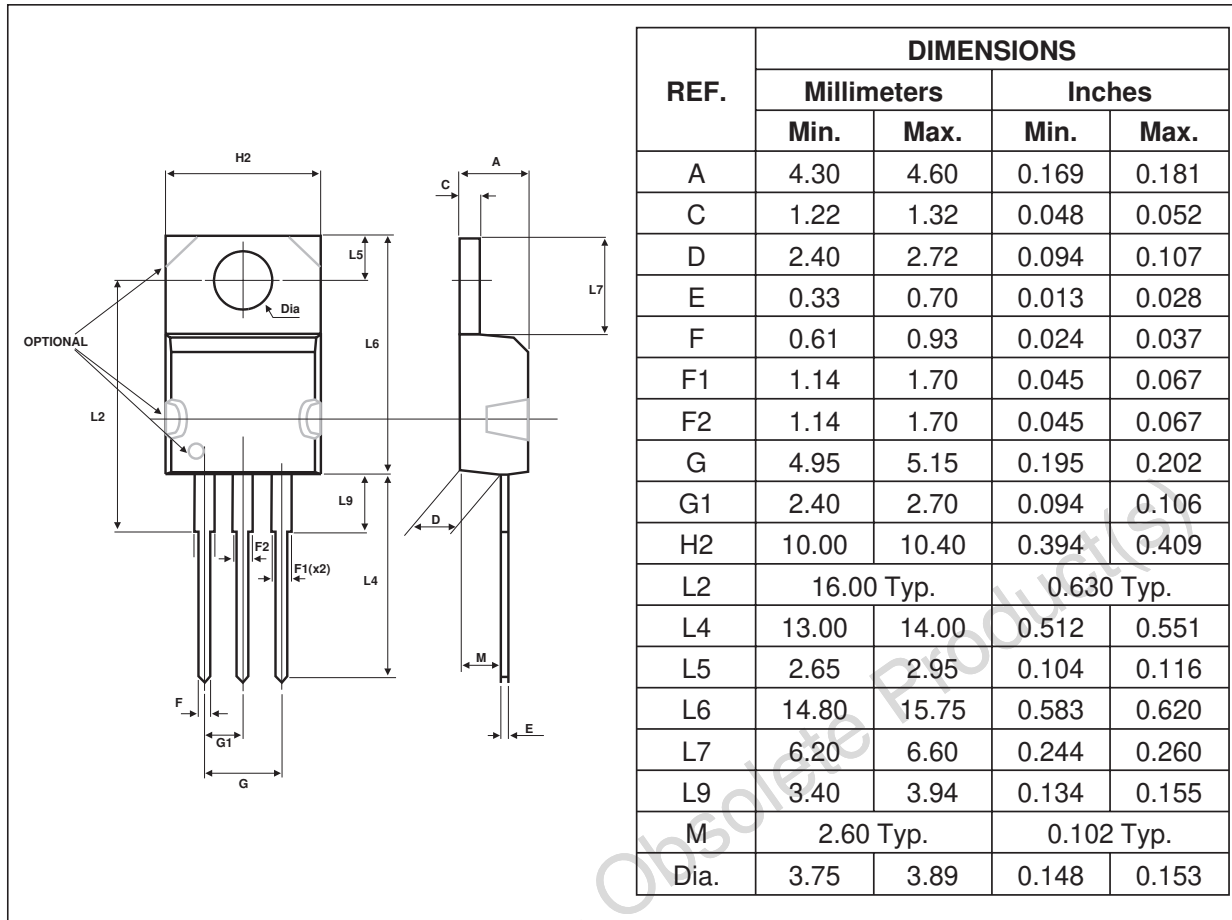
When the diodes 1 and 2 are used simultaneously :
 $T_j - T_c(\text{diode } 1) = P(\text{diode } 1) \times R_{th(j-c)}(\text{Per diode}) + P(\text{diode } 2) \times R_{th(c)}$

ELECTRICAL STATIC CHARACTERISTICS (per diode)

| Symbol | Parameter | Test Conditions | | Min. | Typ. | Max. | Unit |
|-------------------|-------------------------|-----------------------------------|------------------------|------|------|------|------|
| I _R * | Reverse leakage current | V _R = V _{RRM} | T _j = 25°C | | | 70 | μA |
| | | | T _j = 125°C | | | 33 | mA |
| V _F ** | Forward voltage drop | I _F = 20 A | T _j = 125°C | | | 0.8 | V |
| | | I _F = 10 A | T _j = 125°C | | 0.58 | 0.67 | |
| | | I _F = 20 A | T _j = 25°C | | | 0.94 | |
| C | Capacitance | 60 V, 1MHz | T _j = 125°C | | 150 | | pF |

Pulse test : * t_p = 5 ms, duty cycle < 2 %
 ** t_p = 380 μs, duty cycle < 2 %

To evaluate the conduction losses use the following equation :
 $P = 0.54 \times I_F(AV) + 0.013 \times I_F^2(RMS)$

PACKAGE MECHANICAL DATA
 TO-220AB


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