



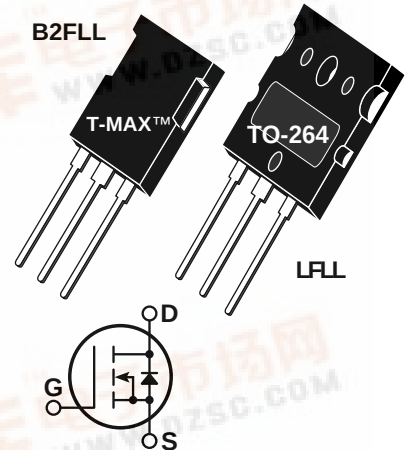
**APT8024B2FLL**  
**APT8024LFLL**  
**800V 31A 0.240Ω**

**POWER MOS 7™**

**FREDFET**

Power MOS 7™ is a new generation of low loss, high voltage, N-Channel enhancement mode power MOSFETS. Both conduction and switching losses are addressed with Power MOS 7™ by significantly lowering  $R_{DS(ON)}$  and  $Q_g$ . Power MOS 7™ combines lower conduction and switching losses along with exceptionally fast switching speeds inherent with APT's patented metal gate structure.

- Lower Input Capacitance
- Lower Miller Capacitance
- Lower Gate Charge,  $Q_g$
- Increased Power Dissipation
- Easier To Drive
- Popular T-MAX™ or TO-264 Package
- **FAST RECOVERY BODY DIODE**



#### MAXIMUM RATINGS

All Ratings:  $T_C = 25^\circ\text{C}$  unless otherwise specified.

| Symbol         | Parameter                                                      | APT8024    | UNIT  |
|----------------|----------------------------------------------------------------|------------|-------|
| $V_{DSS}$      | Drain-Source Voltage                                           | 800        | Volts |
| $I_D$          | Continuous Drain Current @ $T_C = 25^\circ\text{C}$            | 31         | Amps  |
| $I_{DM}$       | Pulsed Drain Current <sup>①</sup>                              | 124        |       |
| $V_{GS}$       | Gate-Source Voltage Continuous                                 | ±30        | Volts |
| $V_{GSM}$      | Gate-Source Voltage Transient                                  | ±40        |       |
| $P_D$          | Total Power Dissipation @ $T_C = 25^\circ\text{C}$             | 565        | Watts |
|                | Linear Derating Factor                                         | 4.52       | W/°C  |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range               | -55 to 150 | °C    |
| $T_L$          | Lead Temperature: 0.063" from Case for 10 Sec.                 | 300        |       |
| $I_{AR}$       | Avalanche Current <sup>①</sup> (Repetitive and Non-Repetitive) | 31         | Amps  |
| $E_{AR}$       | Repetitive Avalanche Energy <sup>①</sup>                       | 50         | mJ    |
| $E_{AS}$       | Single Pulse Avalanche Energy <sup>④</sup>                     | 2500       |       |

#### STATIC ELECTRICAL CHARACTERISTICS

| Symbol       | Characteristic / Test Conditions                                                                   | MIN | TYP | MAX   | UNIT    |
|--------------|----------------------------------------------------------------------------------------------------|-----|-----|-------|---------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage ( $V_{GS} = 0V, I_D = 250\mu A$ )                                   | 800 |     |       | Volts   |
| $I_{D(on)}$  | On State Drain Current <sup>②</sup> ( $V_{DS} > I_{D(on)} \times R_{DS(on)}$ Max, $V_{GS} = 10V$ ) | 31  |     |       | Amps    |
| $R_{DS(on)}$ | Drain-Source On-State Resistance <sup>②</sup> ( $V_{GS} = 10V, 0.5 I_{D(Cont.)}$ )                 |     |     | 0.240 | Ohms    |
| $I_{DSS}$    | Zero Gate Voltage Drain Current ( $V_{DS} = V_{DSS}, V_{GS} = 0V$ )                                |     |     | 250   | $\mu A$ |
|              | Zero Gate Voltage Drain Current ( $V_{DS} = 0.8 V_{DSS}, V_{GS} = 0V, T_C = 125^\circ\text{C}$ )   |     |     | 1000  |         |
| $I_{GSS}$    | Gate-Source Leakage Current ( $V_{GS} = \pm 30V, V_{DS} = 0V$ )                                    |     |     | ±100  | nA      |
| $V_{GS(th)}$ | Gate Threshold Voltage ( $V_{DS} = V_{GS}, I_D = 2.5mA$ )                                          | 3   |     | 5     | Volts   |

**CAUTION:** These Devices are Sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed.

APT Website - <http://www.advancedpower.com>

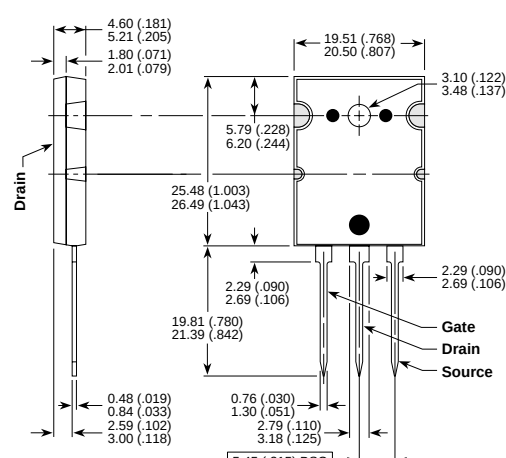
**APT8024 B2FLL - LFLL**

## SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS

## THERMAL CHARACTERISTICS

**APT Reserves the right to change, without notice, the specifications and information contained herein.**

## TO-264 (L) Package Outline



Dimensions in Millimeters and (Inches)

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