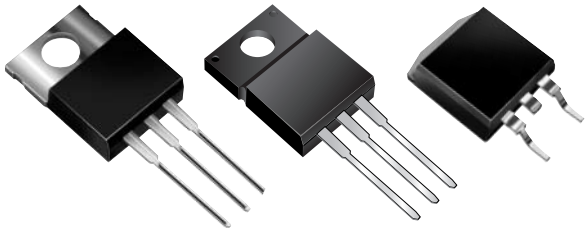
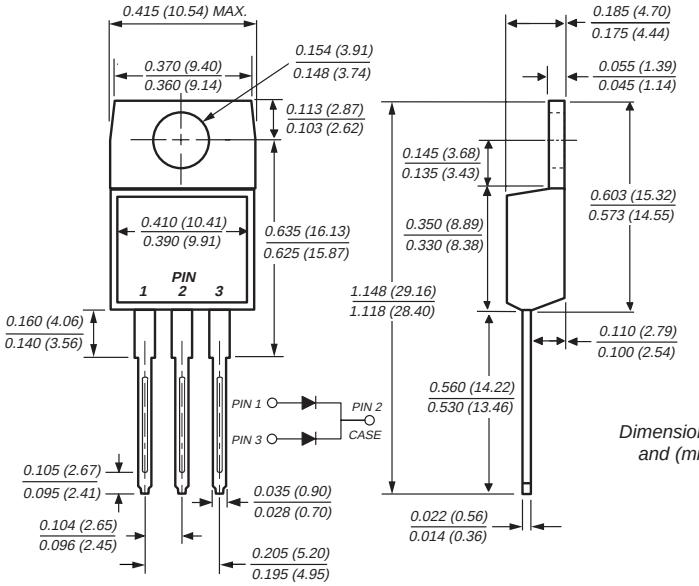
# Dual Ultrafast Plastic Rectifiers

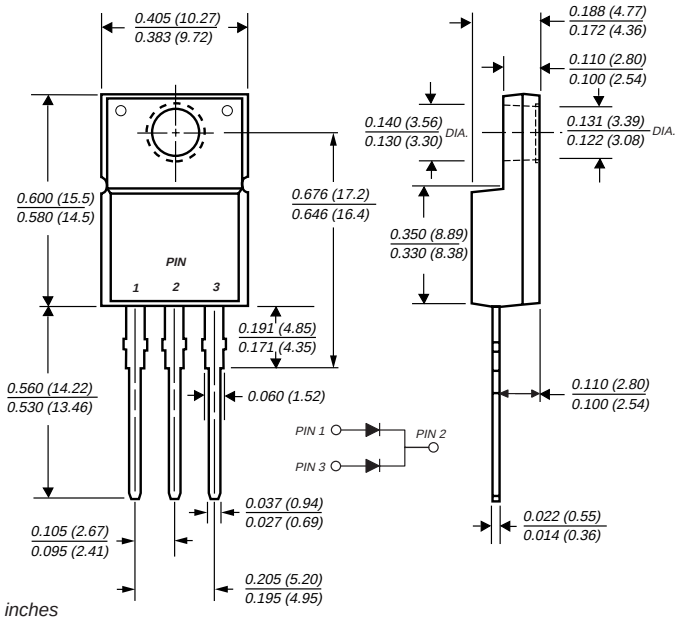
**Reverse Voltage** 50 to 200V
**Forward Current** 6.0A
**Reverse Recovery Time** 35ns



### TO-220AB (FEP6AT Series)

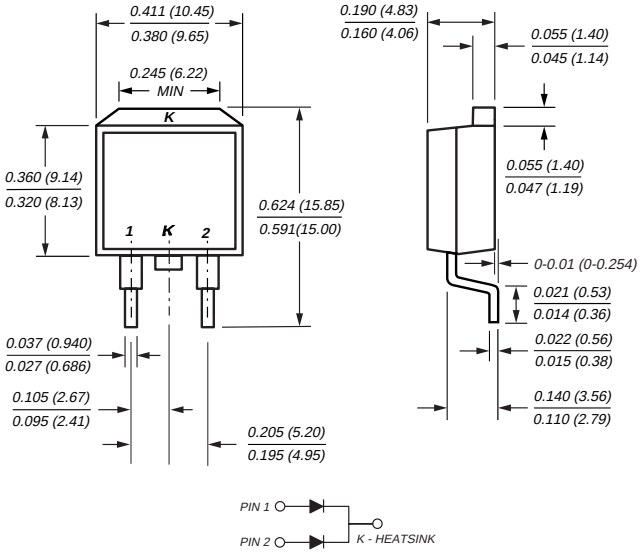



### ITO-220AB (FEPF6AT Series)

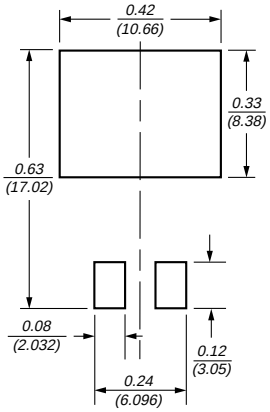



*Dimensions in inches and (millimeters)*

### TO-263AB (FEPB6AT Series)




### Mounting Pad Layout TO-263AB




## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center-tap
- Glass passivated chip junctions
- Superfast recovery times for high efficiency
- Low power loss
- Low forward voltage, high current capability
- For use in low voltage, high frequency inverters, free wheeling and polarity protection applications

## Mechanical Data

**Case:** JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026
High temperature soldering in accordance with CECC 802 / Reflow guaranteed

**Polarity:** As marked **Mounting Position:** Any

**Mounting Torque:** 10 in-lbs maximum

**Weight:** 0.08 oz., 2.24 g

## Maximum Ratings ($T_C$ = 25°C unless otherwise noted)

| Parameter | Symbol | FEP6AT | FEP6BT | FEP6CT | FEP6DT | Unit |
|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | V |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | V |
| Maximum average forward rectified current at $T_C$ = 105°C | $I_{F(AV)}$ | 6.0 | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg | $I_{FSM}$ | 100 | | | | A |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | –55 to +150 | | | | °C |
| RMS Isolation voltage (FEPF) from terminals to heatsink with t = 1.0 second, RH ≤ 30% | $V_{ISOL}$ | 4500 (1)<br>3500 (2)<br>1500 (3) | | | | V |

## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | FEP6AT | FEP6BT | FEP6CT | FEP6DT | Unit |
|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage at 3.0A | $V_F$ | 0.975(4) | | | | V |
| Maximum DC reverse current $T_C$ = 25°C<br>at rated DC blocking voltage per leg $T_C$ = 100°C | $I_R$ | 5<br>50 | | | | µA |
| Maximum reverse recovery time per leg at $I_F$ = 0.5A, $I_R$ = 1.0A, $I_{rr}$ = 0.25A | $t_{rr}$ | 35 | | | | ns |
| Typical junction capacitance per leg at 4V, 1MHz | $C_J$ | 28 | | | | pF |

## Thermal Characteristics ($T_C$ = 25°C unless otherwise noted)

| Parameter | Symbol | FEP6 | FEPF6 | FEPB6 | Unit |
|---|---|---|---|---|---|
| Typical thermal resistance from junction to case per leg | $R_{\Theta JC}$ | 3.6 | 5.1 | 3.6 | °C/W |

**Notes:**
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9mm (0.19")
(4) Pulse test: 300µs pulse width, 1% duty cycle

## Ratings and Characteristic Curves ($T_A$ = 25°C unless otherwise noted)

**Fig. 1 – Maximum Forward Current Derating Curve**

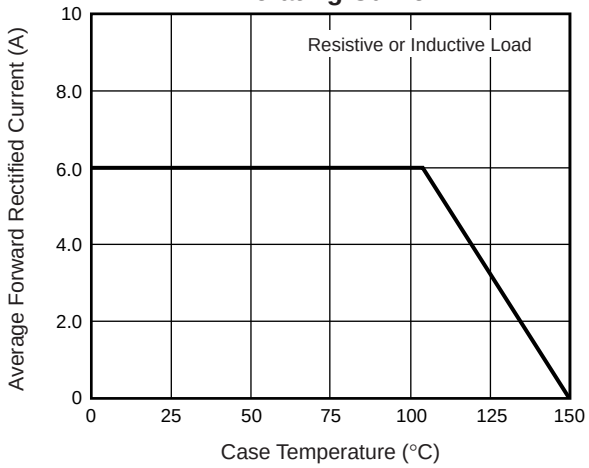



**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**

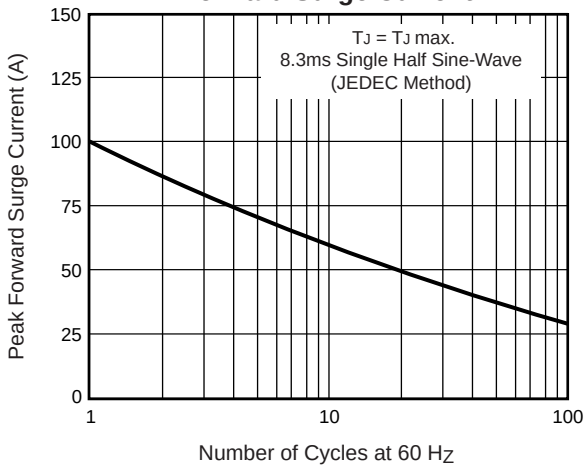



**Fig. 3 – Typical Instantaneous Forward Characteristics**

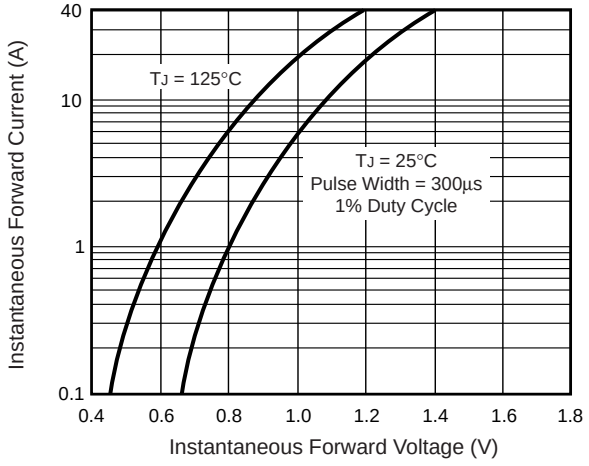



**Fig. 4 – Typical Reverse Leakage Characteristics**

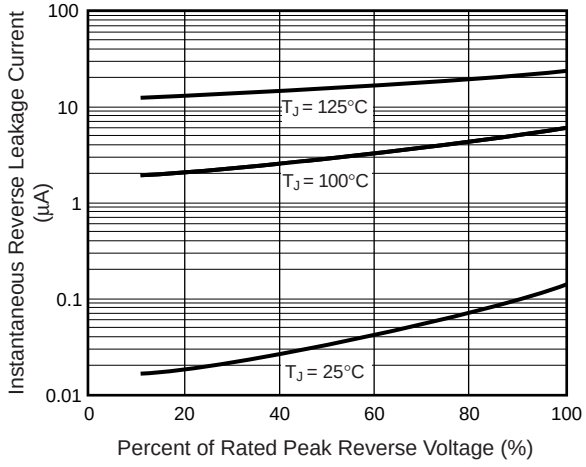



**Fig. 5 – Typical Junction Capacitance**