

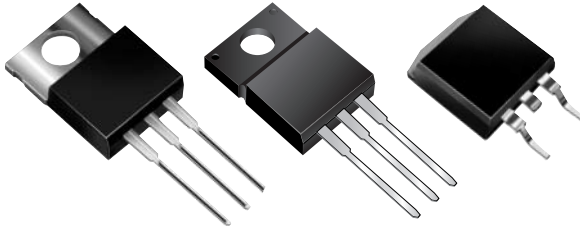


FEP6DT, FEPF6DT, FEPB6DT Series

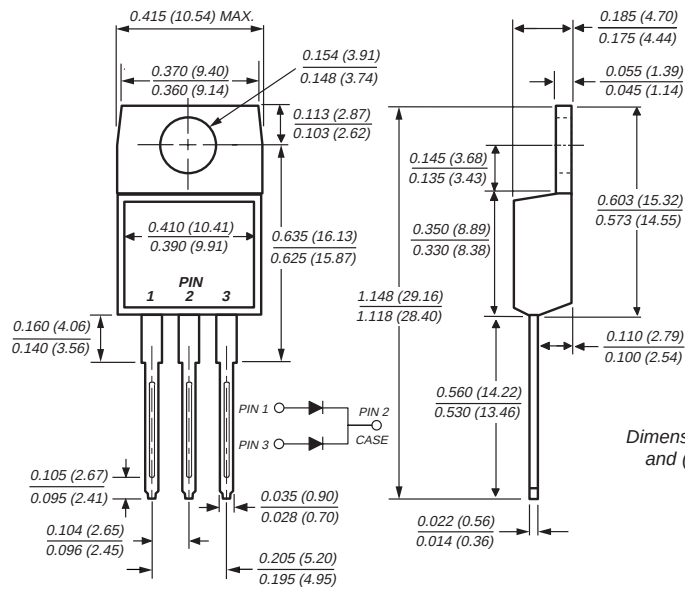
Vishay Semiconductors
formerly General Semiconductor

Dual Ultrafast Plastic Rectifiers

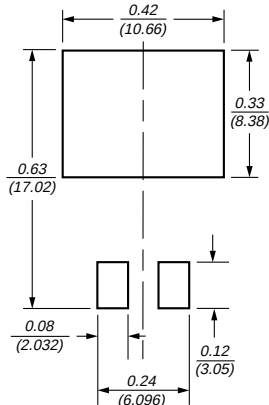
Reverse Voltage 50 to 200V
Forward Current 6.0A
Reverse Recovery Time 35ns



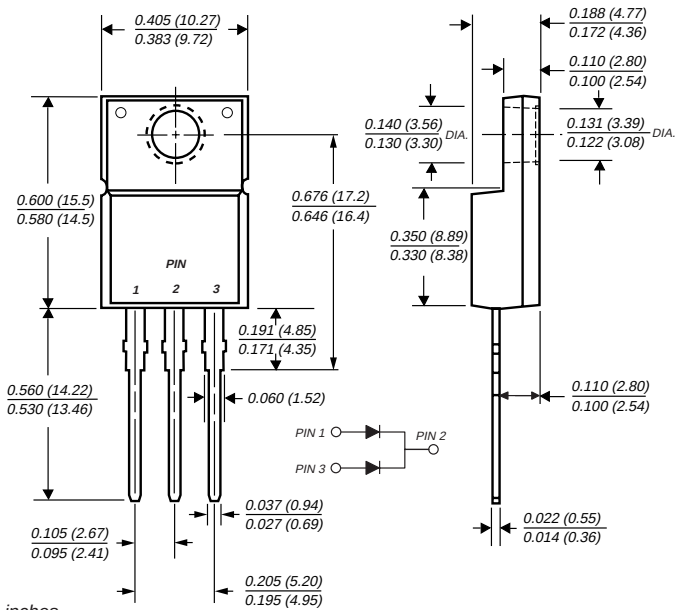
TO-220AB (FEP6AT Series)



Mounting Pad
Layout
TO-263AB

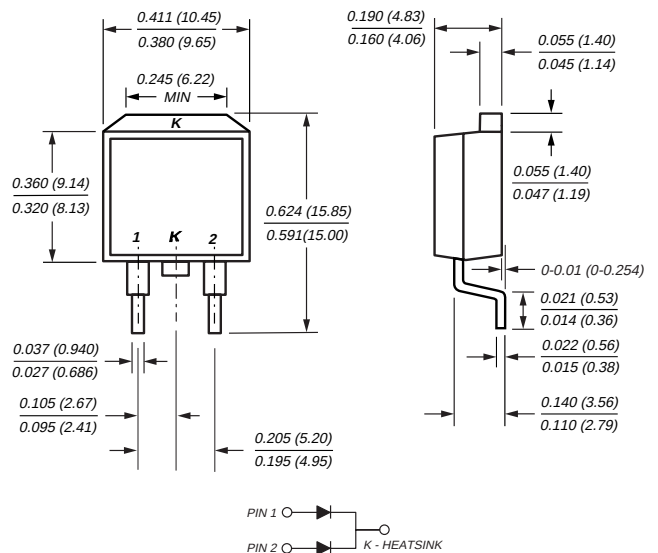


ITO-220AB (FEPF6AT Series)



Dimensions in inches
and (millimeters)

TO-263AB (FEPB6AT Series)



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

FEP6DT, FEPF6DT, FEPB6DT Series



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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⁾ 3500 ⁽²⁾ 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 at rated DC blocking voltage per leg T _C = 100°C	I _R	5 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 _{θJC}	3.6	5.1	3.6	°C/W

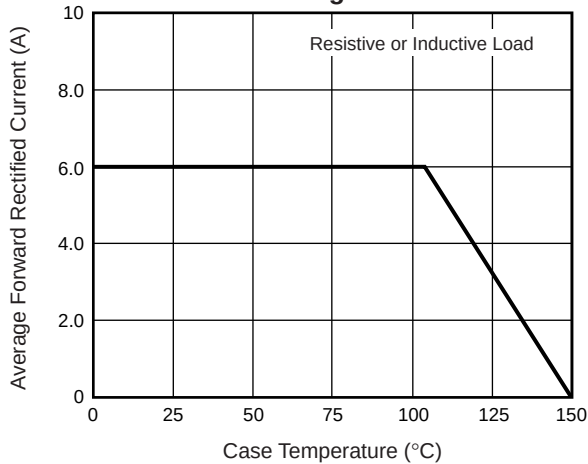
Notes:

- (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

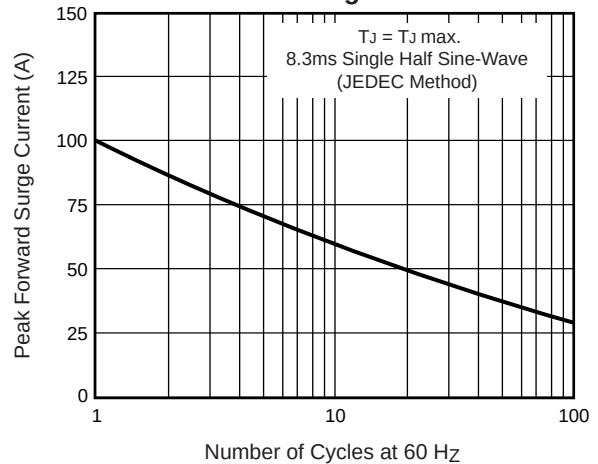


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

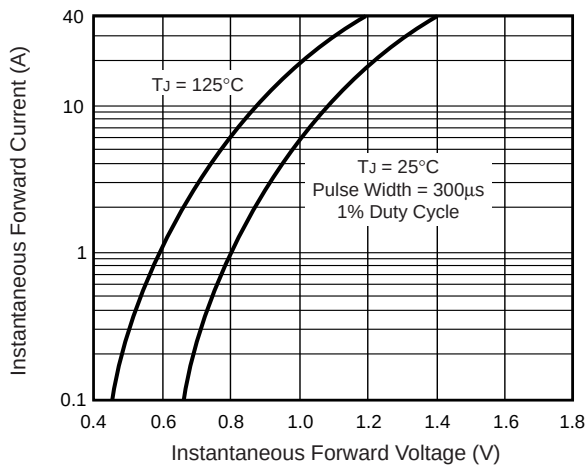
**Fig. 1 – Maximum Forward Current
Derating Curve**



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



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



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

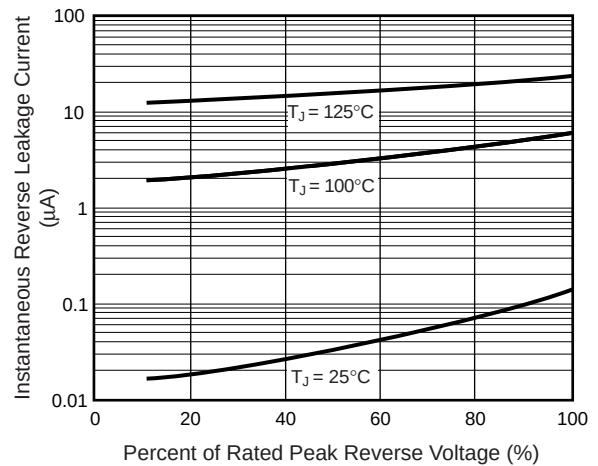


Fig. 5 – Typical Junction Capacitance

