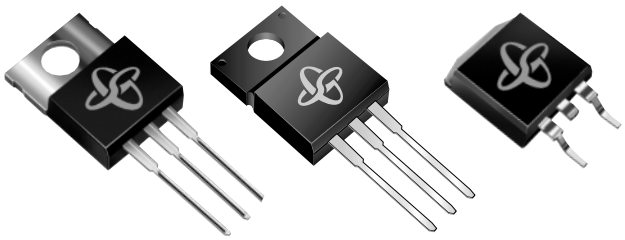
GENERAL SEMICONDUCTOR®

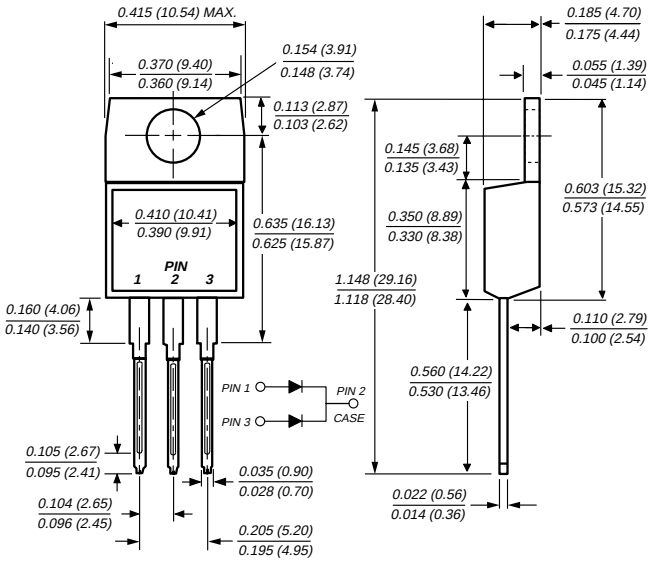
FEP6DT, FEPF6DT, FEPB6DT Series

Dual Ultrafast Plastic Rectifiers

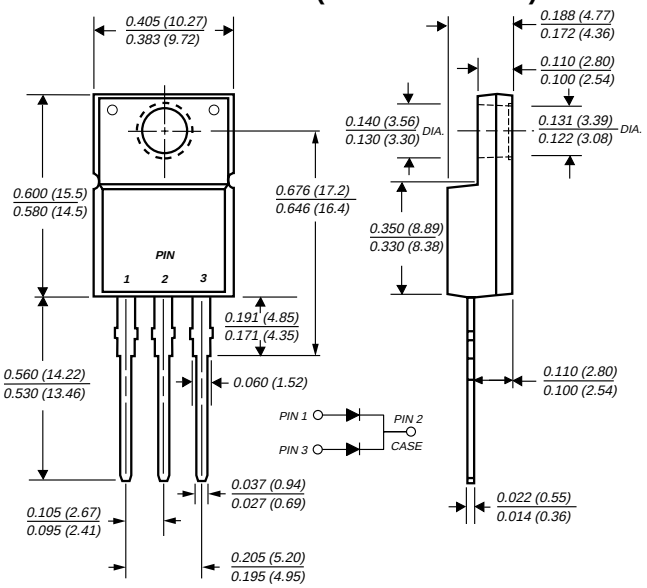
Reverse Voltage 50 to 200V
Forward Current 6.0A
Reverse Recovery Time 35ns



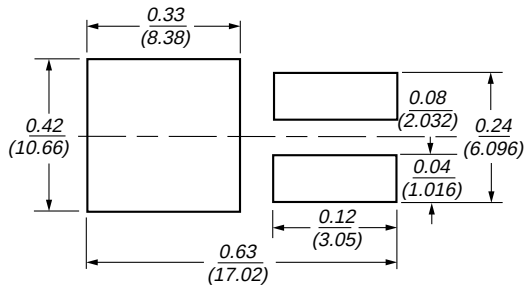
TO-220AB (FEP6AT Series)



ITO-220AB (FEPF6AT Series)

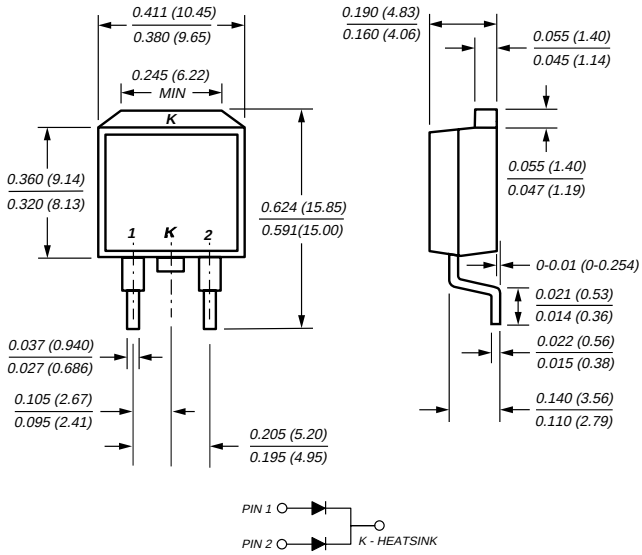


Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

TO-263AB (FEPB6AT Series)



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 ounce, 2.24 grams

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

FEP6DT, FEPF6DT, FEPB6DT Series

Dual Ultrafast Plastic Rectifiers

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	$R_{\Theta JC}$	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

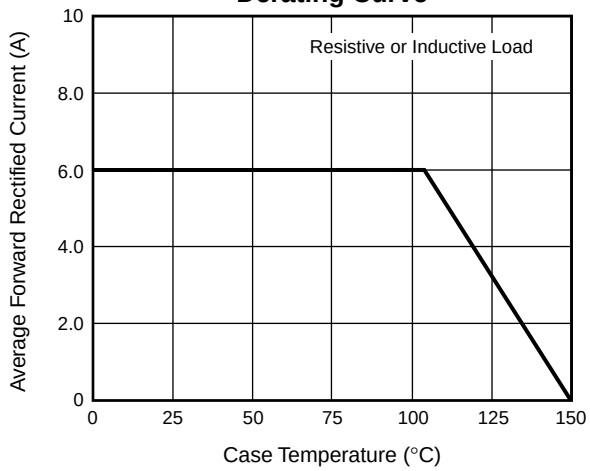


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

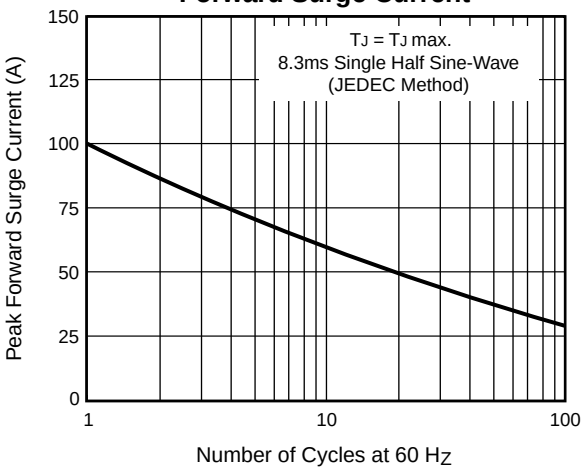


Fig. 3 – Typical Instantaneous Forward Characteristics

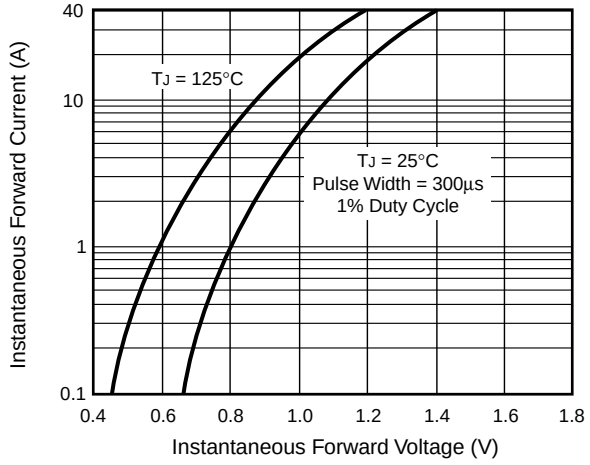


Fig. 4 – Typical Reverse Leakage Characteristics

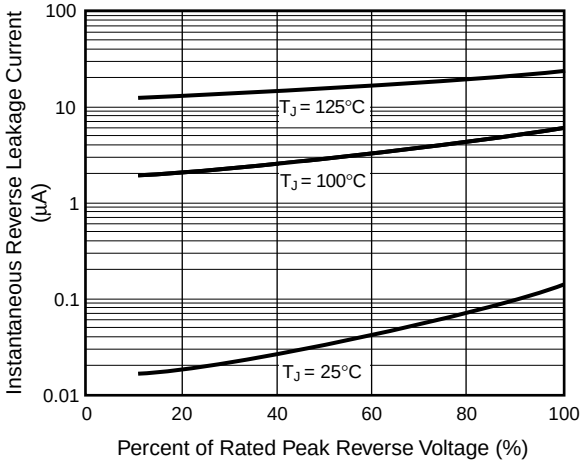


Fig. 5 – Typical Junction Capacitance