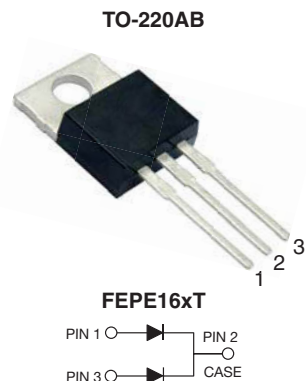


# Dual Common Cathode Ultrafast Plastic Rectifier



## FEATURES

- Power pack
- Glass passivated pellet chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

## TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, inverters, freewheeling diodes, DC/DC converters, and other power switching application.

## MECHANICAL DATA

**Case:** TO-220AB

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting Torque:** 10 in-lbs max.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 8.0 A
$V_{RRM}$	50 V to 600 V
$I_{FSM}$	200 A, 125 A
$t_{rr}$	35 ns, 50 ns
$V_F$	0.95 V, 1.30 V, 1.50 V
$T_J$ max.	150 °C
Package	TO-220AB
Diode variations	Common cathode

MAXIMUM RATINGS (T <sub>C</sub> = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	FEPE 16AT	FEPE 16BT	FEPE 16CT	FEPE 16DT	FEPE 16FT	FEPE 16GT	FEPE 16HT	FEPE 16JT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at T <sub>C</sub> = 100 °C	I <sub>F(AV)</sub>	16								A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	200				125				A
Operating storage and temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

ELECTRICAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)												
PARAMETER	TEST CONDITIONS		SYMBOL	FEPE 16AT	FEPE 16BT	FEPE 16CT	FEPE 16DT	FEPE 16FT	FEPE 16GT	FEPE 16HT	FEPE 16JT	UNIT
Maximum instantaneous forward voltage per diode	8.0 A		V <sub>F</sub> <sup>(1)</sup>	0.95				1.30		1.50		V
Maximum DC reverse current per diode at rated DC blocking voltage		T <sub>C</sub> = 25 °C	I <sub>R</sub>	10								μA
		T <sub>C</sub> = 100 °C		500								
Maximum reverse recovery time per diode	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	35				50				ns
Typical junction capacitance per diode	4.0 V, 1 MHz		C <sub>J</sub>	85						60		pF

### Note

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

**THERMAL CHARACTERISTICS** ( $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	FEPE 16AT	FEPE 16BT	FEPE 16CT	FEPE 16DT	FEPE 16FT	FEPE 16GT	FEPE 16HT	FEPE 16JT	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	2.2								$^{\circ}\text{C/W}$

**ORDERING INFORMATION** (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	FEPE16JT-E3/45	1.85	45	50/tube	Tube

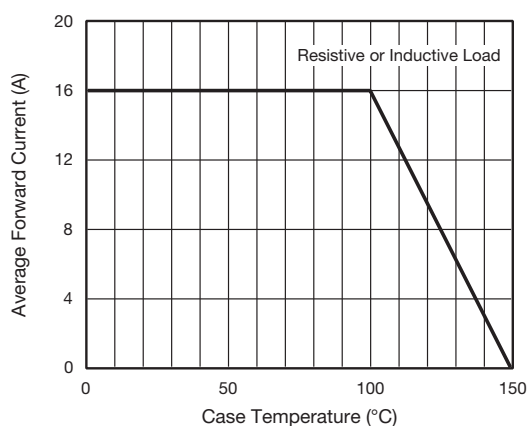
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

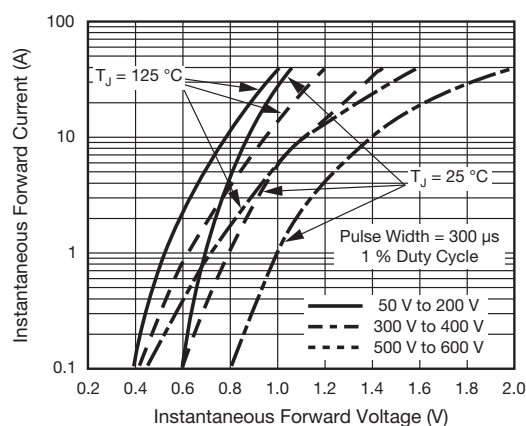


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

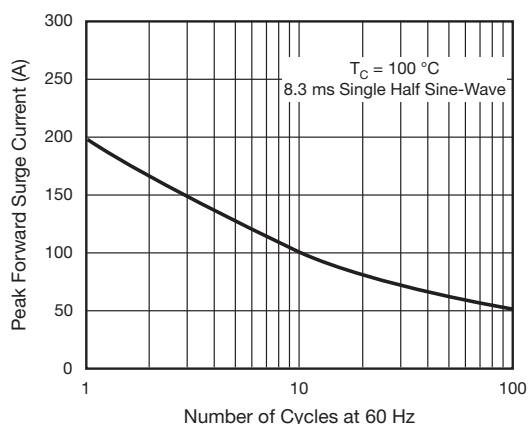


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

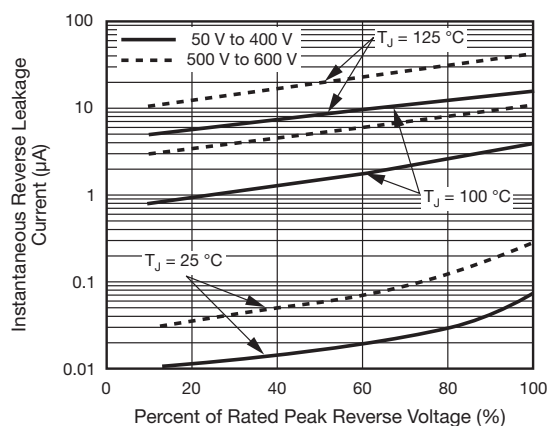


Fig. 4 - Typical Reverse Characteristics Per Diode

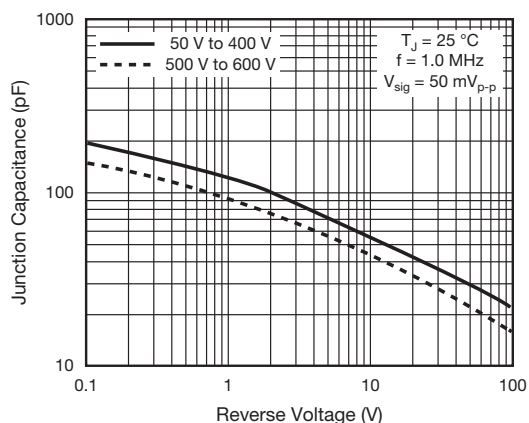
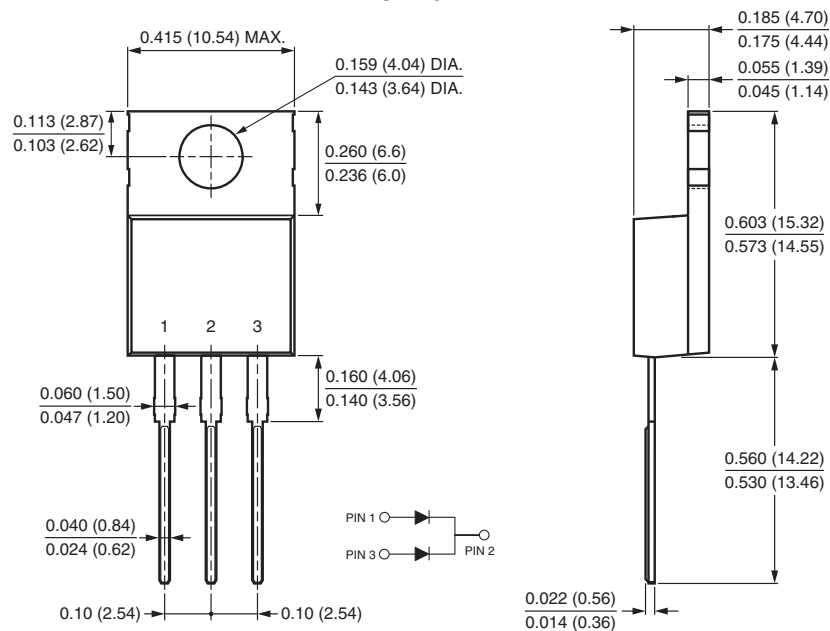


Fig. 5 - Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**TO-220AB**




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