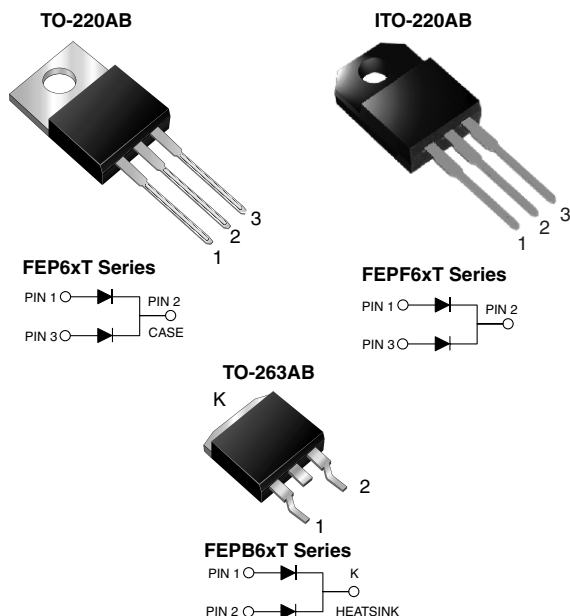


Dual Common-Cathode Ultrafast Rectifier



FEATURES

- Glass passivated chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- Low leakage current
- High forward surge capability
- Meets MSL level 1, per J-STD-020C, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-220AB, ITO-220AB, TO-263AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	6.0 A
V_{RRM}	50 V to 200 V
I_{FSM}	75 A
t_{rr}	35 ns
V_F	0.975 V
$T_J \text{ max.}$	150 °C

MAXIMUM RATINGS ($T_C = 25 \text{ °C}$ 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 $T_C = 105 \text{ °C}$	$I_{F(AV)}$	6.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	75				A
Operating storage and temperature range	T_J, T_{STG}	- 55 to + 150				°C
Isolation voltage (ITO-220AB only) from terminal to heatsink $t = 1 \text{ min}$	V_{AC}	1500				V

ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	FEP6AT	FEP6BT	FEP6CT	FEP6DT	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	3.0 A		V _F	0.975				V
Maximum DC reverse current at rated DC blocking voltage per diode		T _C = 25 °C T _C = 100 °C	I _R	5.0 50				μA
Maximum reverse recovery time per diode	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	35				ns
Typical junction capacitance per diode	4.0 V, 1 MHz		C _J	28				pF

Note:(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	FEP6	FEPF6	FEPB6	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	3.6	5.1	3.6	$^{\circ}\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	FEP6DT-E3/45	1.81	45	50/tube	Tube
ITO-220AB	FEPF6DT-E3/45	1.97	45	50/tube	Tube
TO-263AB	FEPB6DT-E3/45	1.33	45	50/tube	Tube
TO-263AB	FEPB6DT-E3/81	1.33	81	800/reel	Tape reel
TO-220AB	FEP6DTHE3/45 ⁽¹⁾	1.81	45	50/tube	Tube
ITO-220AB	FEPF6DTHE3/45 ⁽¹⁾	1.97	45	50/tube	Tube
TO-263AB	FEPB6DTHE3/45 ⁽¹⁾	1.33	45	50/tube	Tube
TO-263AB	FEPB6DTHE3/81 ⁽¹⁾	1.33	81	800/reel	Tape reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

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

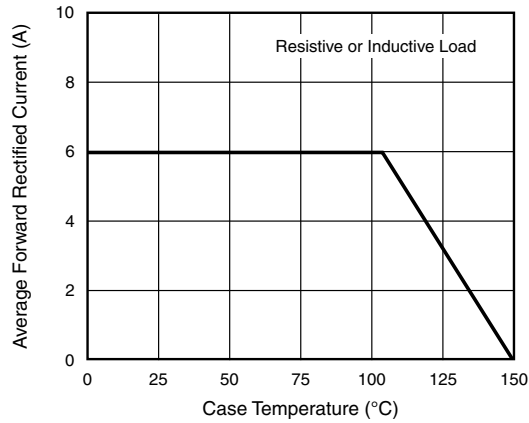


Figure 1. Maximum Forward Current Derating Curve

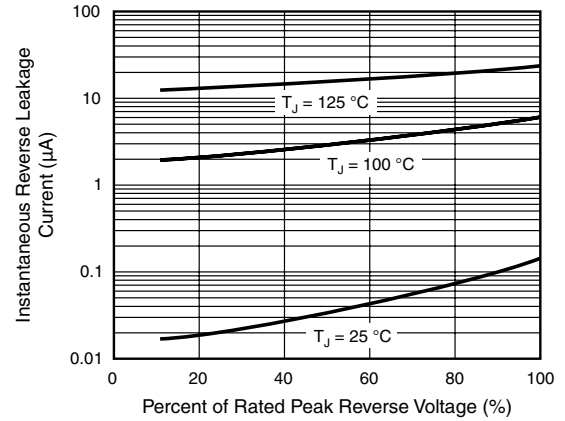


Figure 4. Typical Reverse Leakage Characteristics Per Diode

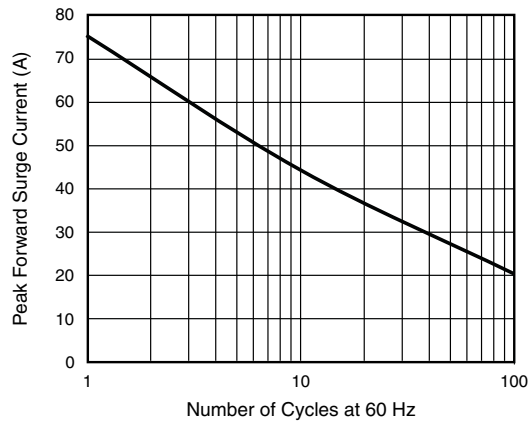


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

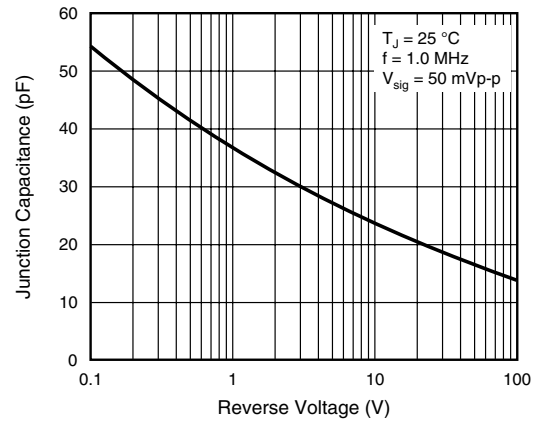


Figure 5. Typical Junction Capacitance Per Diode

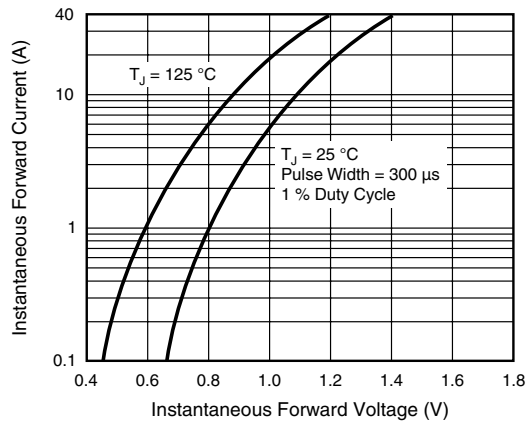


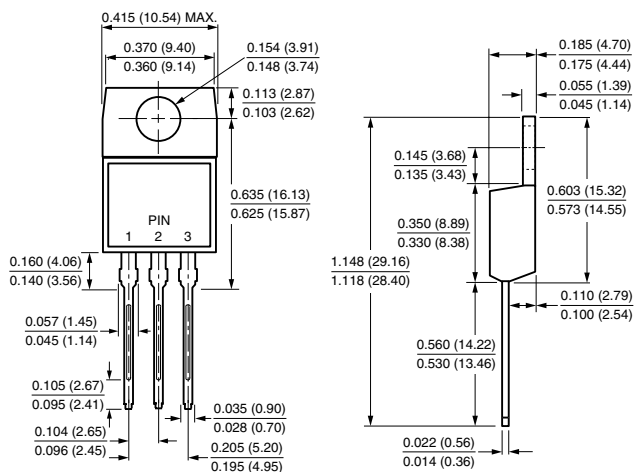
Figure 3. Typical Instantaneous Forward Characteristics Per Diode

Vishay General Semiconductor

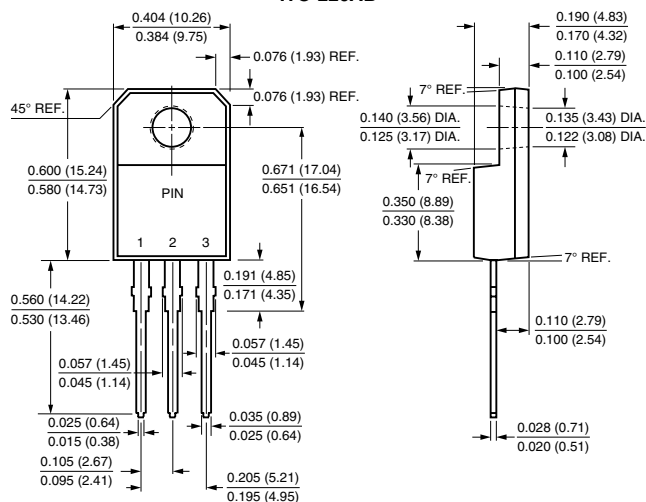


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

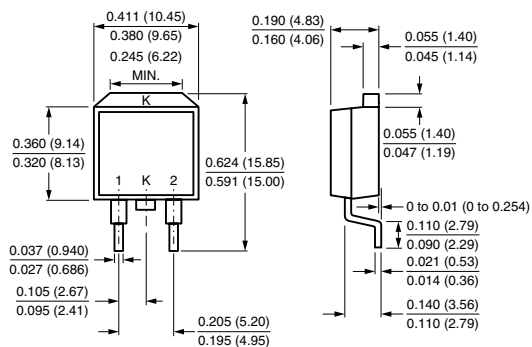
TO-220AB



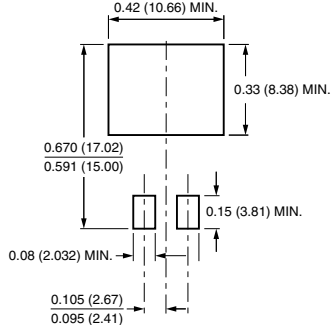
ITO-220AB



TO-263AB



Mounting Pad Layout





Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.