

# ER1600CT/FCT THRU ER1606CT/FCT

## SUPERFAST RECOVERY RECTIFIERS

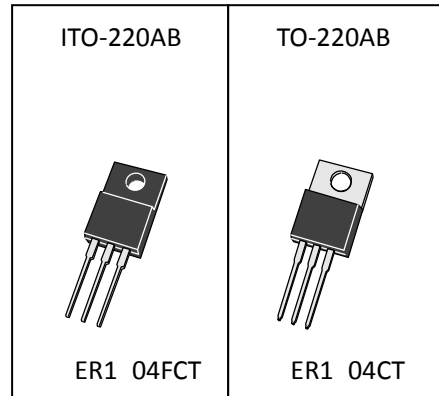
**VOLTAGE: 50 to 400 Volts CURRENT: 1\* .0 Amperes**

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage
- Epitaxial chip construction

### MECHANICAL DATA

Case: TO-220AB QU EPOXY molded plastic  
 Terminals: Lead, solderable per MIL-STD-202, Method 208  
 Polarity: As marked  
 Mounting Position: Any  
 Weight: 0.08 ounces, 2.24 grams



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### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	ER 1600CT	ER 1601CT	ER 1601ACT	ER 1602CT	ER 1603CT	ER 1604CT	ER 1606CT	Unit
		ER1600 FCT	ER1601 FCT	ER1601A FCT	ER1604 FCT	ER1603 FCT	ER1604 FCT	ER1606 CT	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	150	200	300	400	600	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	105	140	210	280	420	V
Average Rectified Output Current @T <sub>C</sub> = 105°C	I <sub>o</sub>	16							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	125							A
Forward Voltage @I <sub>F</sub> = 8.0A	V <sub>FM</sub>	0.95			1.3		1.7		V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	10 500							µA
Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35			50				nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	80			60				pF
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150							°C

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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**VOLTAGE: 50 to 400 Volts CURRENT: 16.0 Amperes**

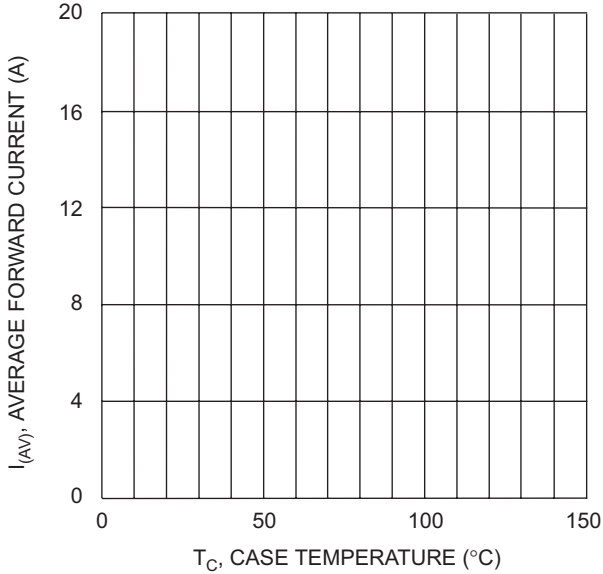


Fig. 1 Forward Current Derating Curve

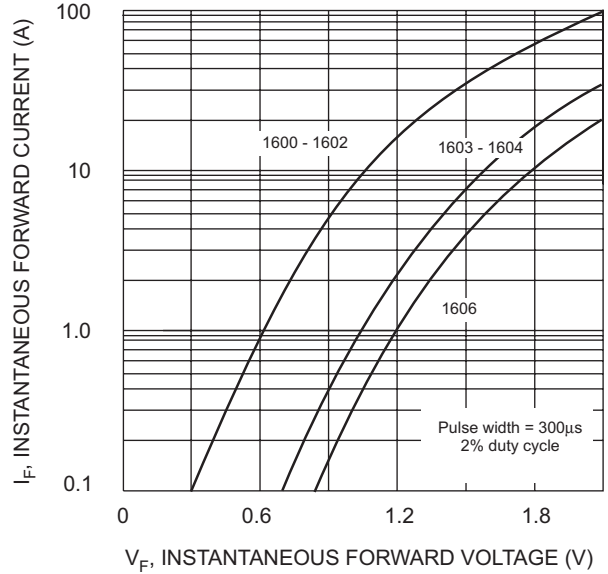


Fig. 2 Typical Forward Characteristics

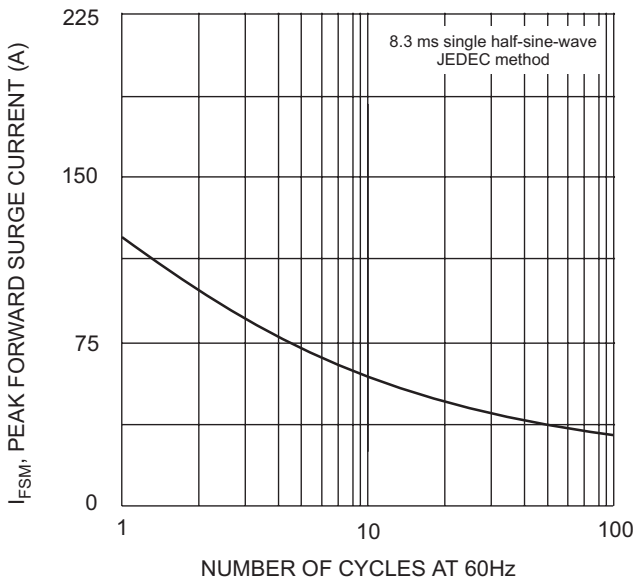


Fig. 3 Maximum Non-Repetitive Surge Current

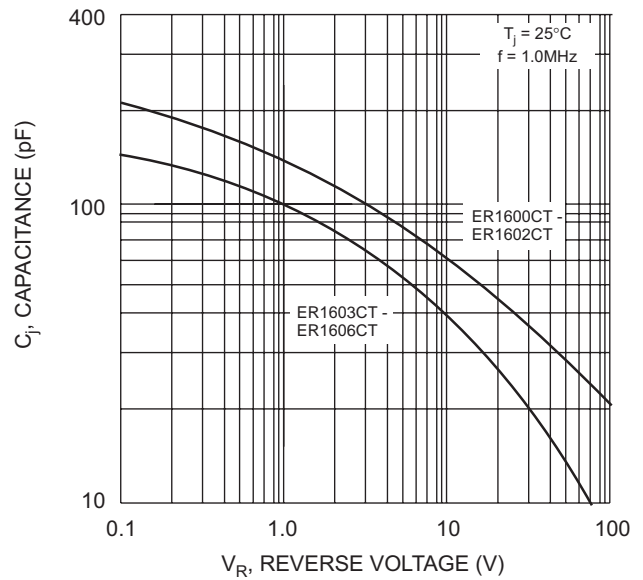
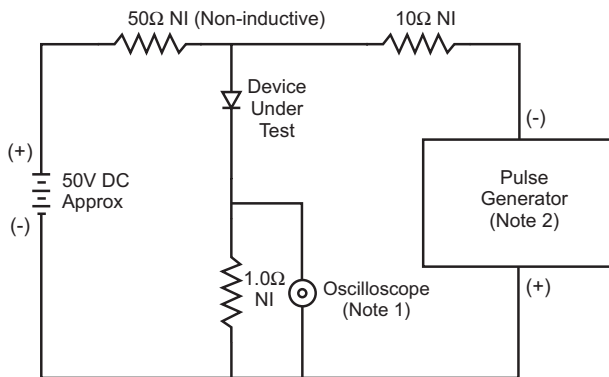
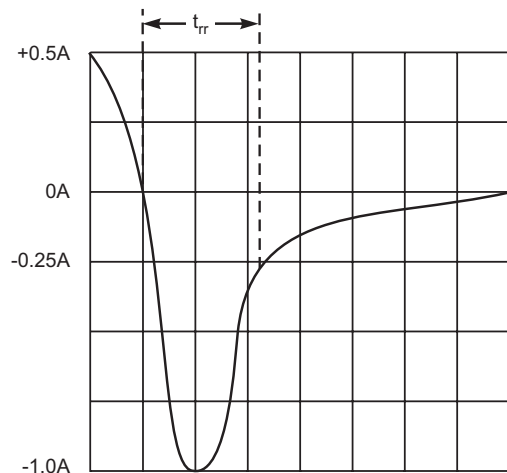


Fig. 4 Typical Junction Capacitance



- Notes:  
 1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.  
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

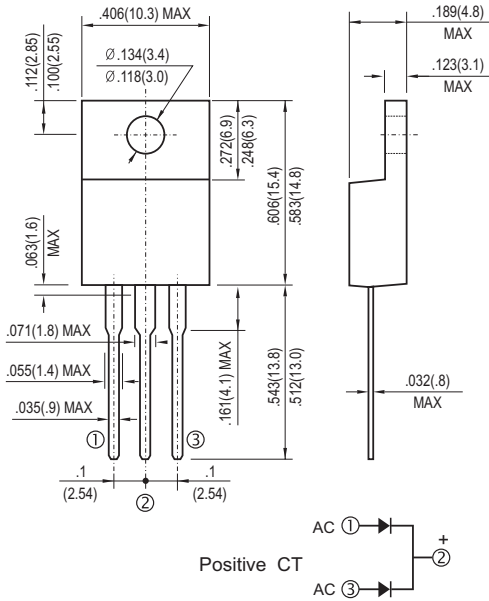
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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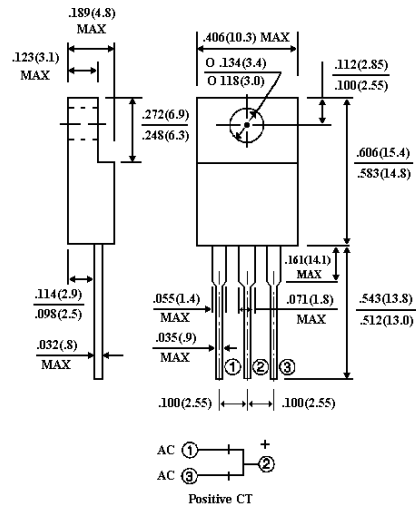
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## ITO-220AB



## TO-220AB



Dimensions in inches and (millimeters)