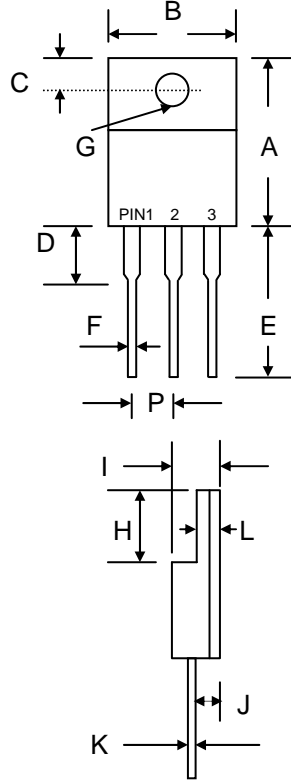


### Features

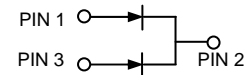
- Glass Passivated Die Construction
- Superfast 35nS and 50nS Recovery Time
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

### Mechanical Data

- Case: ITO-220, Full Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.9 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 0.6 N.m Max.
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



ITO-220		
Dim	Min	Max
A	14.60	15.40
B	9.70	10.30
C	2.55	2.85
D	—	4.16
E	13.00	13.80
F	0.50	0.75
G	3.00 Ø	3.50 Ø
H	6.30	6.90
I	4.20	4.80
J	2.50	2.90
K	0.50	0.75
L	2.60	3.30
P	2.29	2.79
All Dimensions in mm		



### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	ER 1000FCT	ER 1001FCT	ER 1001AFCT	ER 1002FCT	ER 1003FCT	ER 1004FCT	ER 1006FCT	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	420	V
Average Rectified Output Current @ $T_C = 100^\circ\text{C}$	$I_O$	10				5.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	150							A
Forward Voltage per diode @ $I_F = 5.0\text{A}$	$V_{FM}$	0.95			1.3		1.7		V
Peak Reverse Current At Rated DC Blocking Voltage	$I_{RM}$	10				500			$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$	35			50			nS	
Typical Junction Capacitance (Note 2)	$C_J$	70			50			pF	
Thermal Resistance Junction to Ambient per diode	$R_{JA}$	62							$^\circ\text{C/W}$
Thermal Resistance Junction to Case per diode	$R_{JC}$	4.5							
RMS Isolation Voltage, $t = 1\text{ min}$	$V_{ISO}$	1500							V
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

# ER1000FCT – ER1006FCT

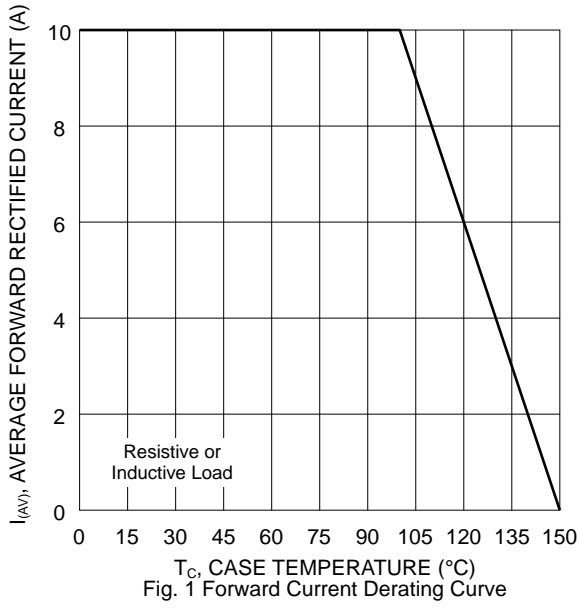


Fig. 1 Forward Current Derating Curve

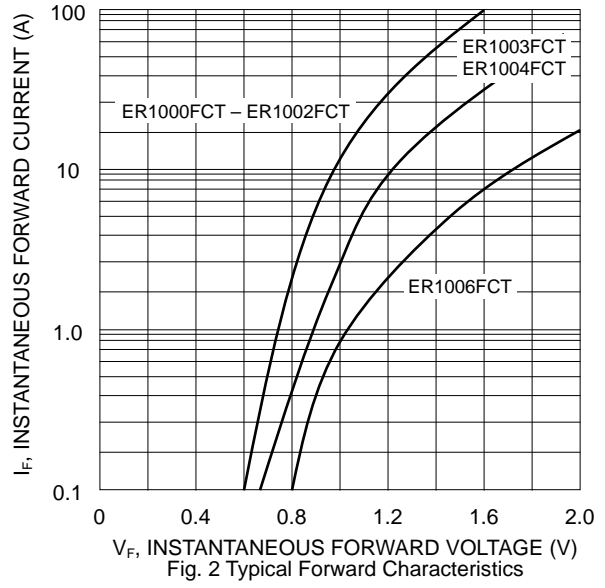


Fig. 2 Typical Forward Characteristics

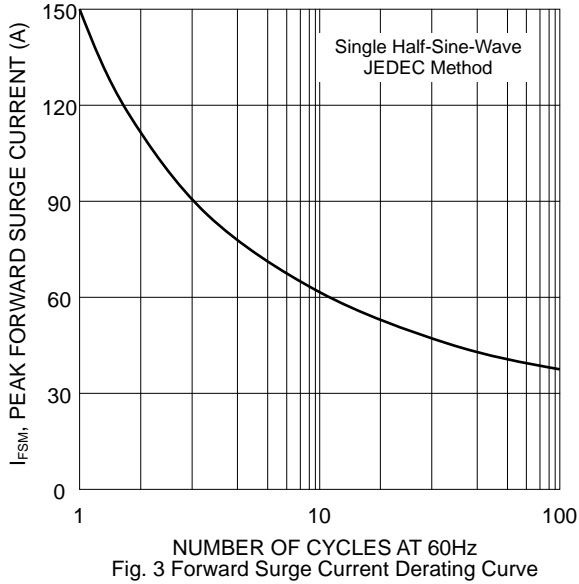


Fig. 3 Forward Surge Current Derating Curve

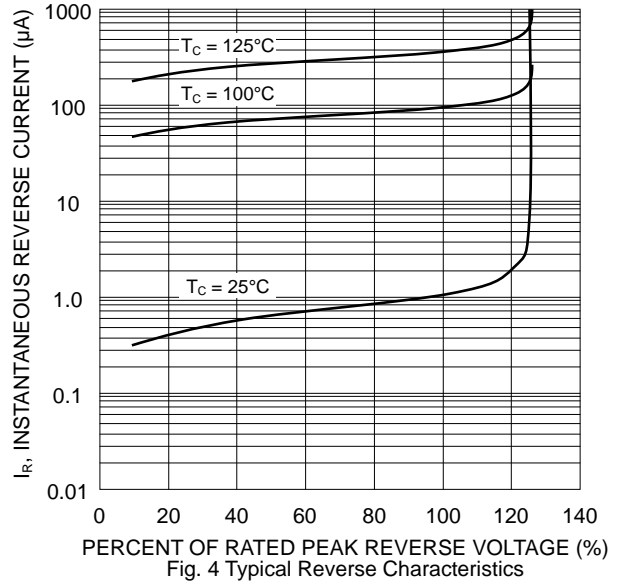


Fig. 4 Typical Reverse Characteristics

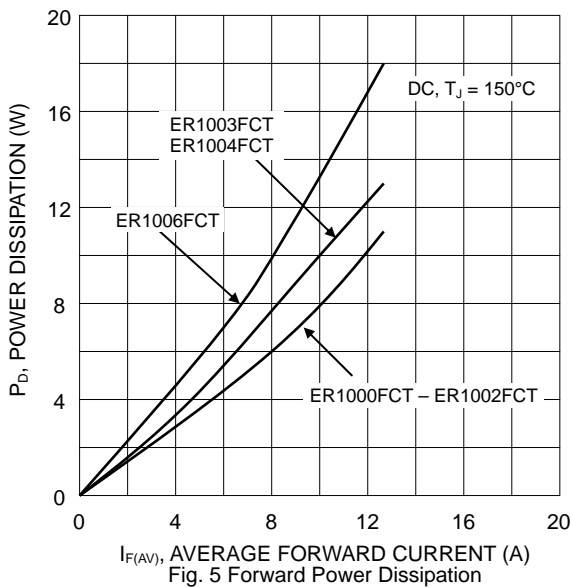


Fig. 5 Forward Power Dissipation

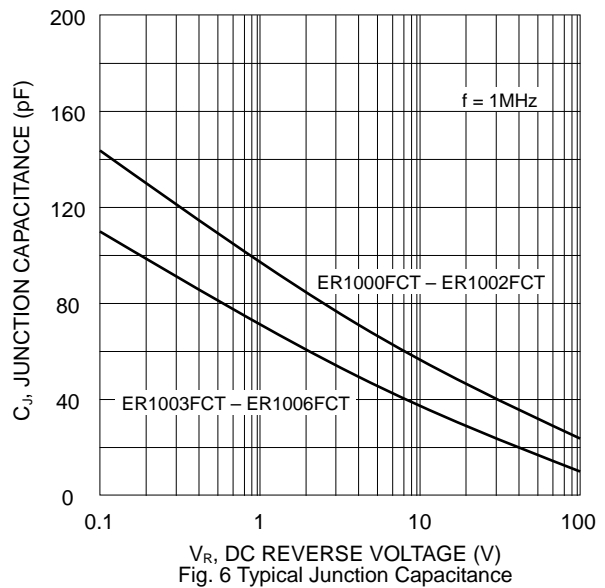
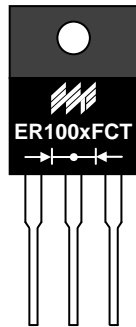


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



ER100xFACT = Device Number  
 x = 0, 1, 1A, 2, 3, 4 or 6  
 Polarity = As Marked on Body

## PACKAGING INFORMATION

### BULK

Tube Size L x W x H (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
525 x 31 x 6	50	555 x 145 x 95	2,000	572 x 306 x 218	8,000	19.0

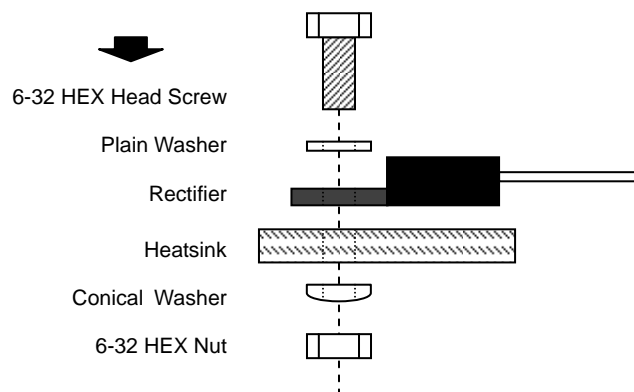
**Note:** 1. Anti-static tube, water clear color.

## RECOMMENDED SCREW MOUNTING ARRANGEMENT

The full molded plastic package affords a major reduction of hardware as compared to a standard TO-220 package. However, precautions should be made in mounting procedure.

A conical washer should be used to apply proper force to the device. Screw should not be tightened with any type of air-forced torque or equipment that may cause crack on device package.

A layer of thermal grease or thermal pad in the interface will be considerably helpful for heat dissipation.



## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
ER1000FCT	ITO-220	50 Units/Tube
ER1001FCT	ITO-220	50 Units/Tube
ER1001AFCT	ITO-220	50 Units/Tube
ER1002FCT	ITO-220	50 Units/Tube
ER1003FCT	ITO-220	50 Units/Tube
ER1004FCT	ITO-220	50 Units/Tube
ER1006FCT	ITO-220	50 Units/Tube

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, ER1000FCT-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

**Won-Top Electronics Co., Ltd.**  
No. 44 Yu Kang North 3rd Road,  
Chine Chen Dist., Kaohsiung 806, Taiwan  
**Phone:** 886-7-822-5408 or 886-7-822-5410  
**Fax:** 886-7-822-5417  
**Email:** sales@wontop.com  
**Internet:** <http://www.wontop.com>

*We power your everyday.*