



# ER1600CT~ER1606CT

## ISOLATION SUPERFAST RECOVERY RECTIFIER

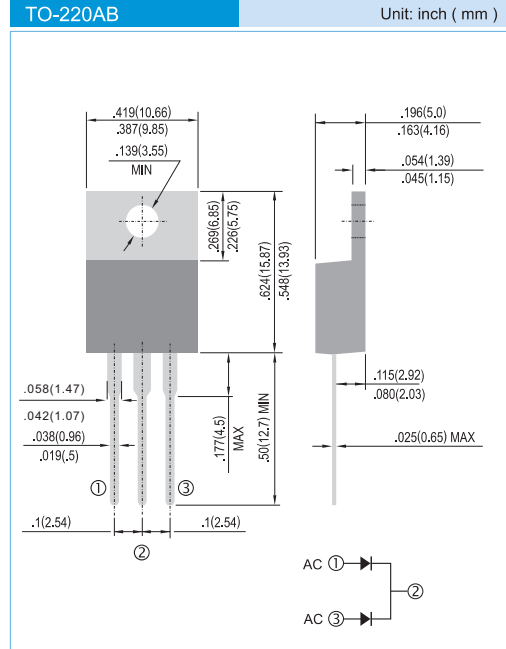
**VOLTAGE** 50 to 600 Volts **CURRENT** 16.0 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. 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.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: TO-220AB Molded plastic
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.0655 ounces, 1.859 grams.



### MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

PARAMETER	SYMBOL	ER1600CT	ER1601CT	ER1601ACT	ER1602CT	ER1603CT	ER1604CT	ER1606CT	UNITS	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V	
Maximum Average Forward Current at $T_c = 90^\circ\text{C}$	$I_{F(AV)}$	16.0							A	
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125							A	
Maximum Forward Voltage at 8A	$V_F$	0.95			1.30		1.70		V	
Maximum DC Reverse Current at $T_j = 25^\circ\text{C}$ Rated DC Blocking Voltage $T_j = 100^\circ\text{C}$	$I_R$	1.0				500				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 2)	$t_{rr}$	35			50				ns	
Typical Junction capacitance (Note 1)	$C_j$	62							pF	
Typical Thermal Resistance	$R_{\theta JC}$	3.0							$^\circ\text{C} / \text{W}$	
Operating and Storage Temperature Range	$T_j, T_{STG}$	-50 to +150							$^\circ\text{C}$	

#### NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Reverse Recovery Test Conditions:  $I_F = .5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = .25\text{A}$ .
3. Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

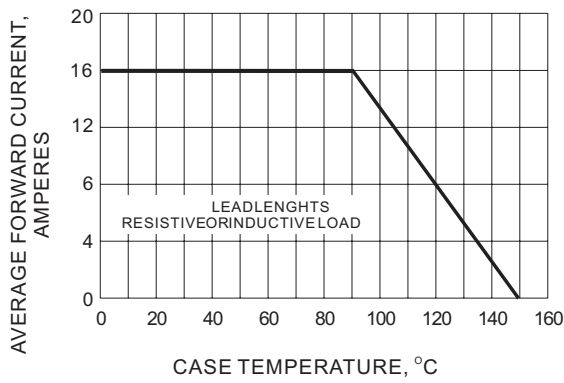


Fig.1- FORWARD CURRENT DERATING CURVE

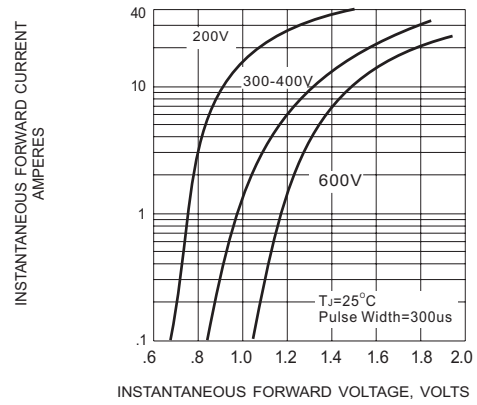


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

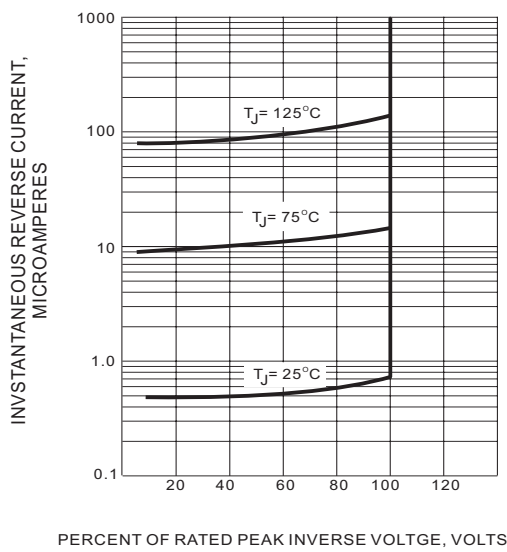


FIG.3 TYPICAL REVERSE CHARACTERISTICS

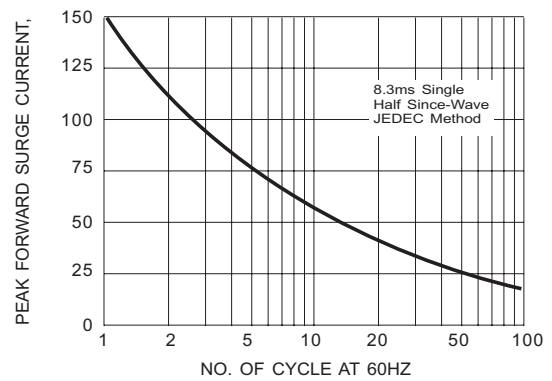


Fig.4- MAXIMUM NON - REPETITIVE SURGE CURRENT

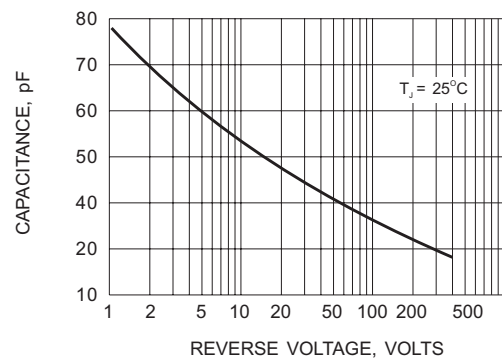


Fig.5- TYPICAL JUNCTION CAPACITANCE