

### Features

- High current capability.
- Superfast recovery time for switching mode application.
- High surge current capability.
- Glass passivated chip junction.
- Suffix "G" indicates Halogen free parts, ex. ET3005G
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### Mechanical data

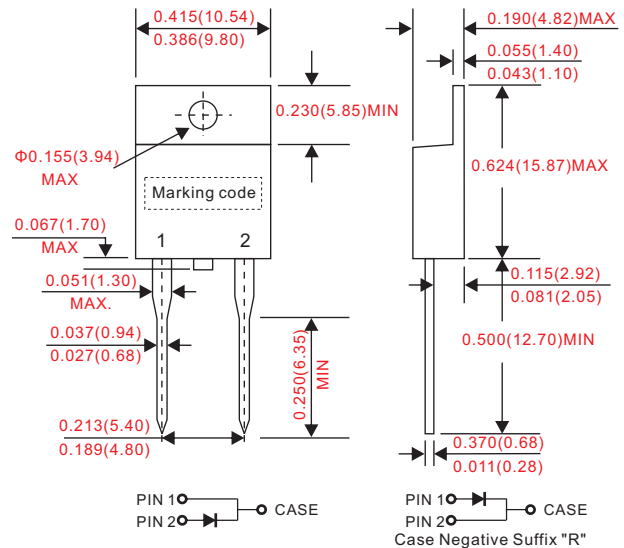
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AC molded plastic body over passivated chip.
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight : Approximated 2.24 gram.

### Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

### Outline

TO-220AC



Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current		$I_O$			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			100	A
Reverse current	$V_R = V_{RRM} T_A = 25^\circ\text{C}$	$I_R$			5.0	uA
	$V_R = V_{RRM} T_A = 125^\circ\text{C}$				100	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		45		pF
Storage temperature		$T_{STG}$	-55		+150	°C

Symbol	Marking code	Max. repetitive peak reverse voltage $V_{RRM}$ (V)	Max. RMS voltage $V_{RMS}$ (V)	Max. DC blocking voltage $V_R$ (V)	Max. forward voltage @3A, $T_A = 25^\circ\text{C}$ $V_F$ (V)	Max. reverse recovery time(1) $T_{rr}$ (ns)	Operating temperature $T_J$ (°C)
ET3005	ET3005	50	35	50	0.95	35	-55 ~ +150
ET301	ET301	100	70	100			
ET302	ET302	200	140	200			
ET304	ET304	400	280	400			
ET306	ET306	600	420	600			

Note : 1.  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

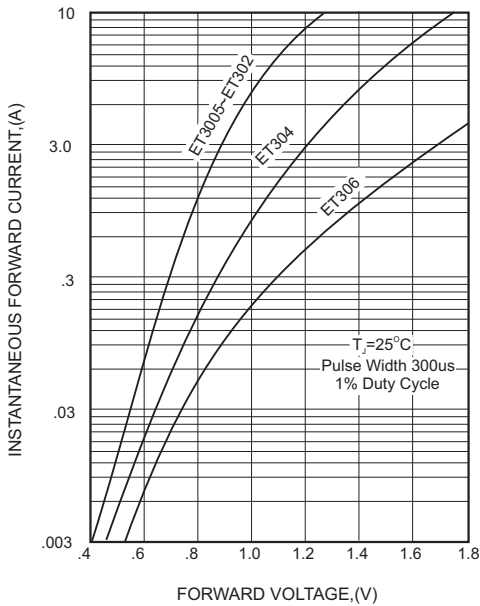


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

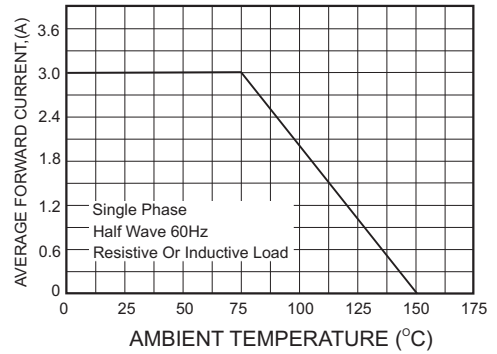
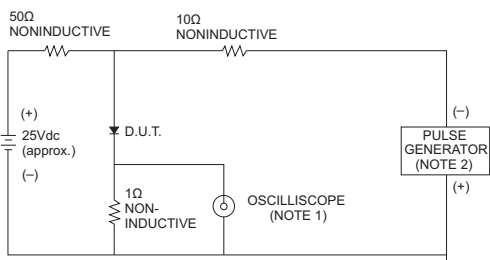


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

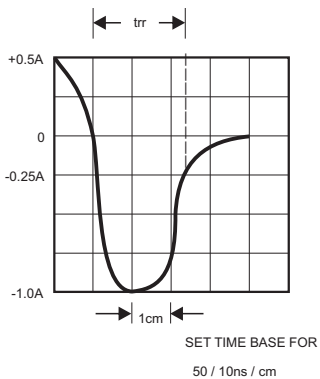


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

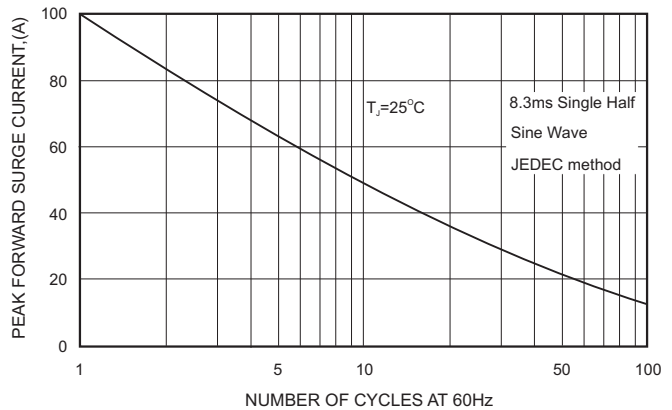
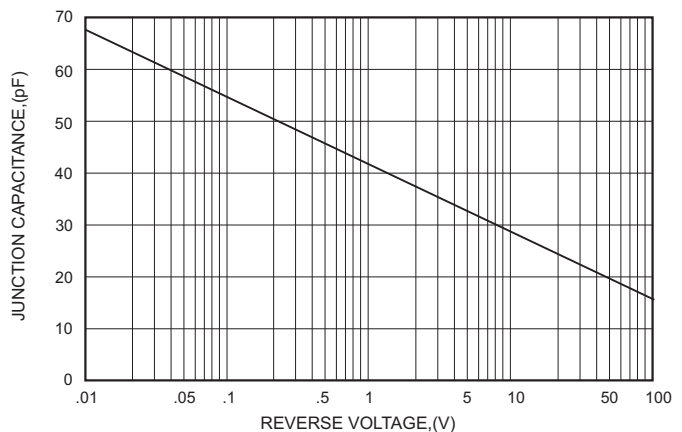


FIG.5-TYPICAL JUNCTION CAPACITANCE



- CITC reserves the right to make changes to this document and its products and specifications at any time without notice.
- Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
- CITC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CITC assume any liability for application assistance or customer product design.
- CITC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.
- No license is granted by implication or otherwise under any intellectual property rights of CITC.
- CITC products are not authorized for use as critical components in life support devices or systems without express written approval of CITC.