

ED3005S THRU ED310S

3 Amperes Surface Mount High Power Super Fast Rectifiers
VOLTAGE : 50 TO 1000Volts

Features	Outline
• 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. ED3005SG • Lead-free parts meet environmental standards of MIL-STD-19500 /228	DPAK(TO-252) Dimensions in inches and (millimeters)
Mechanical data	
• Epoxy : UL94-V0 rated flame retardant. • Case : Molded plastic, DPAK / TO-252. • Lead : Solder plated, solderable per MIL-STD-750, Method 2026. • Polarity: Indicated by cathode band. • Mounting Position : Any. • Weight : Approximated 0.34 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%.

Parameter	Symbol	ED3005S	ED301S	ED302S	ED304S	ED306S	ED308S	ED310S	UNIT
Making code		ED3005S	ED301S	ED302S	ED304S	ED306S	ED308S	ED310S	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	
Maximum Forward Voltage	V_F	0.95			1.25	1.70			V
Operating Temperature	T_J	-50 ~ +150							°C

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 methode)	I_{FSM}			75	A
Reverse current	$V_R = V_{RRM} \quad T_A = 25^\circ C$	I_R			1.0	uA
	$V_R = V_{RRM} \quad T_A = 125^\circ C$				300	
Maximum reverse recovery time	$I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$	T_{rr}			35	nS
Typical junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_j		45		pF

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

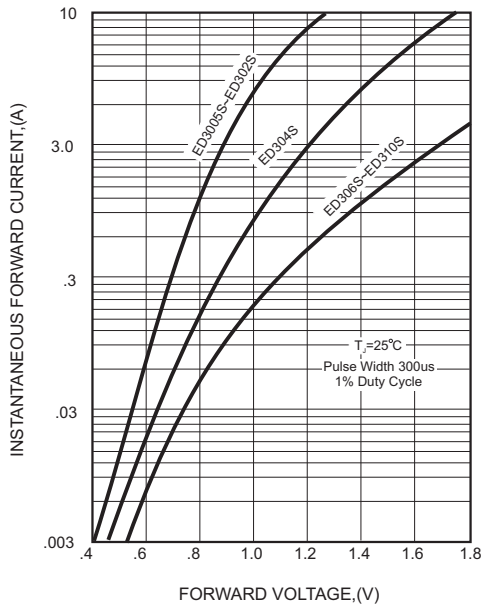
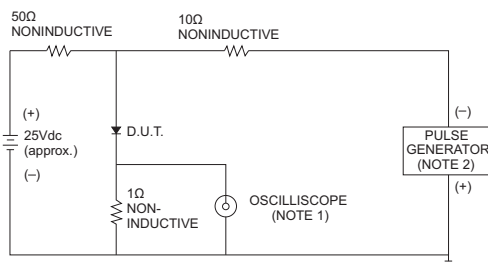


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

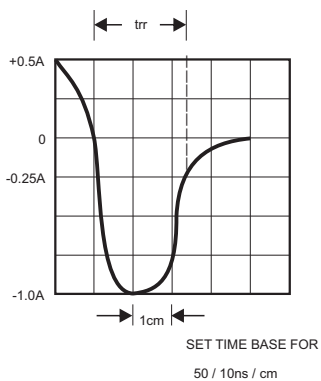


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

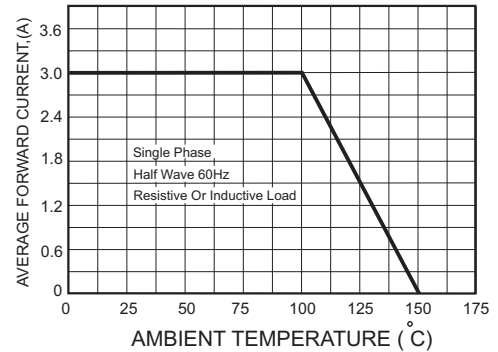


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

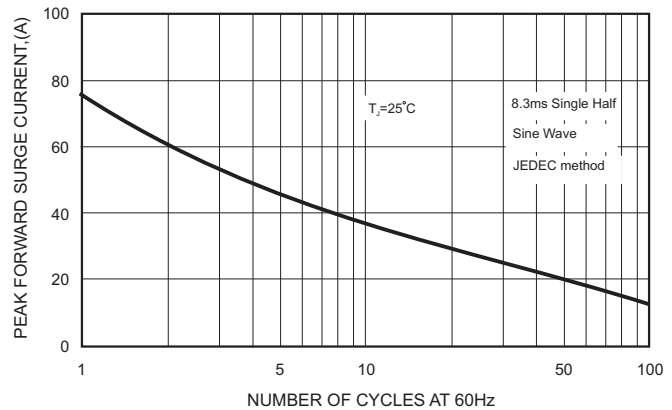


FIG.5-TYPICAL JUNCTION CAPACITANCE

