

ES1AS THRU ES1MS

1 Amperes Surface Mount Super Fast Rectifiers
VOLTAGE : 50 TO 1000Volts

Features	Outline
<ul style="list-style-type: none"> • Low profile surface mounted application in order to optimize board space. • High current capability, low forward voltage drop. • High surge capability. • Superfast recovery time for switching mode application. • Glass passivated chip junction. • Suffix "G" indicates Halogen free parts, ex. ES1ASG. • Lead-free parts meet environmental standards of MIL-STD-19500 /228 	<p>SMAS(DO-214AC)</p> <p>Dimensions in inches and (millimeters)</p>
Mechanical data	
<ul style="list-style-type: none"> • Epoxy:UL94-V0 rated flame retardant • Case : Molded plastic, DO-214AC / SMAS • Terminals : Solder plated, solderable per MIL-STD-750, Method 2026 • Polarity : Indicated by cathode band • Weight : Approximated 0.08 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	ES1AS	ES1BS	ES1DS	ES1GS	ES1JS	ES1KS	ES1MS	UNIT
Making code		ES1A	ES1B	ES1D	ES1G	ES1J	ES1K	ES1M	
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			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM} T_A = 25^\circ C$	I_R			1.0	uA
	$V_R = V_{RRM} T_A = 100^\circ C$				300	
Maximum reverse recovery time	$I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$	T_{rr}			35	nS
Typical thermal resistance		$R_{\theta JA}$		32		°C/W
Typical junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		10		pF

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

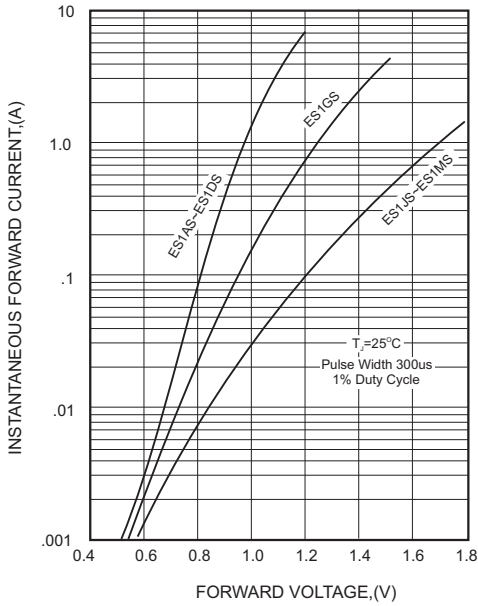


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

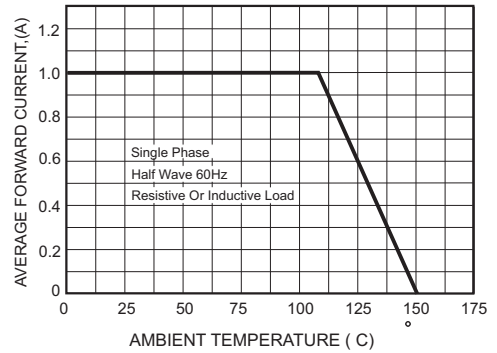


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

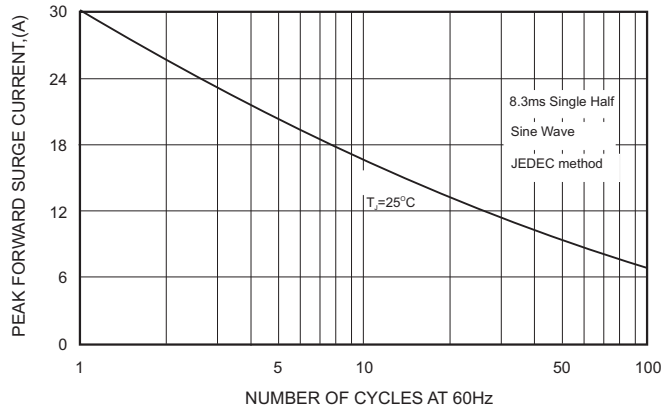
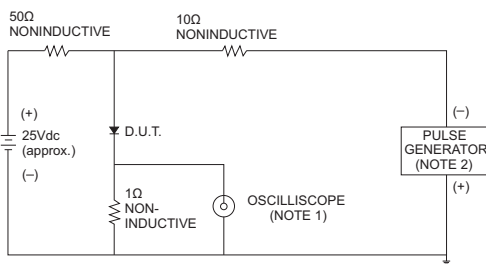


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE

RECOVERY TIME CHARACTERISTICS



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

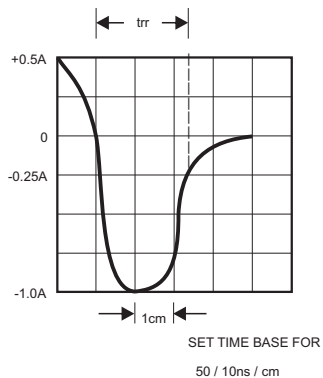


FIG.5-TYPICAL JUNCTION CAPACITANCE

