ED3005S THRU ED306S

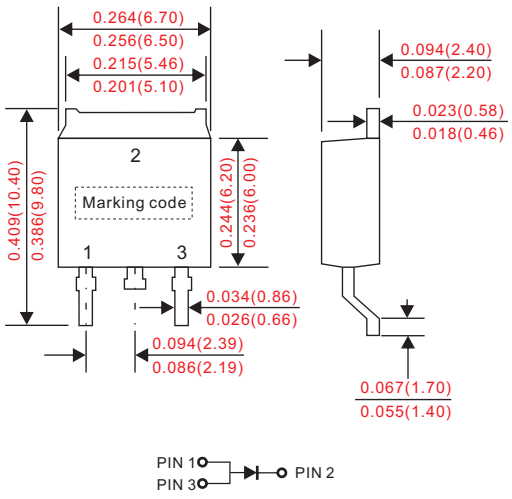
3A Surface Mount High Power Super Fast Rectifiers

■ Features

- 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. ED3005SG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Outline

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	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	$V_R = V_{RRM}$ $T_A = 25°C$	I_R			5.0	uA
	$V_R = V_{RRM}$ $T_A = 125°C$				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, $T_A = 25°C$ V_F (V)	Max. reverse recovery time(1) T_{rr} (ns)	Operating temperature T_J (°C)
ED3005S	ED3005S	50	35	50	0.95	35	-55 ~ +150
ED301S	ED301S	100	70	100			
ED302S	ED302S	200	140	200			
ED304S	ED304S	400	280	400	1.25		
ED306S	ED306S	600	420	600	1.70		

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

Document ID : DS-12E21
Issued Date : 2010/05/05
Revised Date : 2012/05/31
Revision : C

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

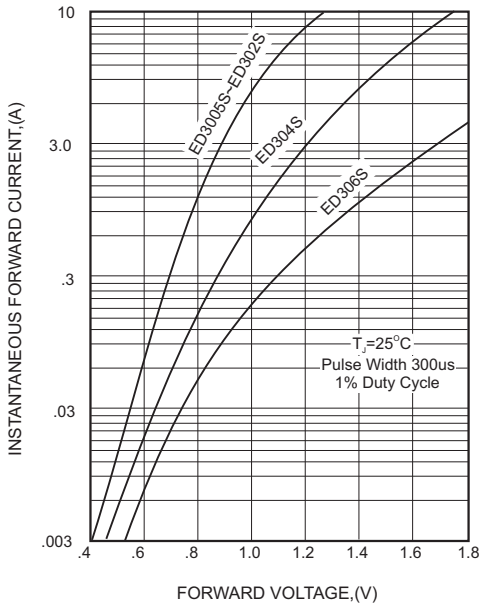


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

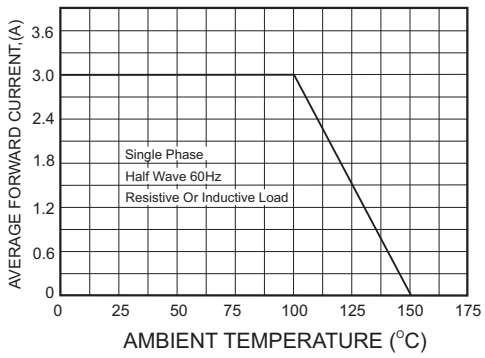
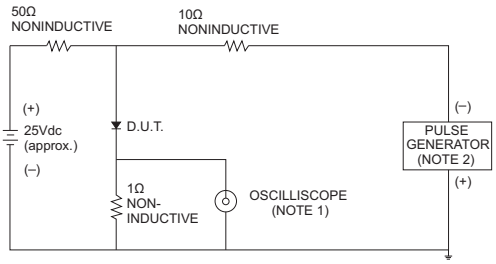
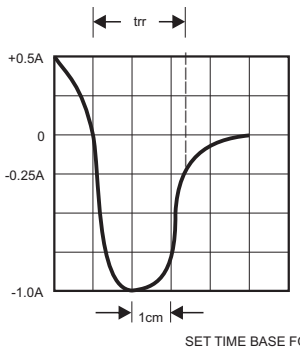


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.



SET TIME BASE FOR

50 / 10ns / cm

FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

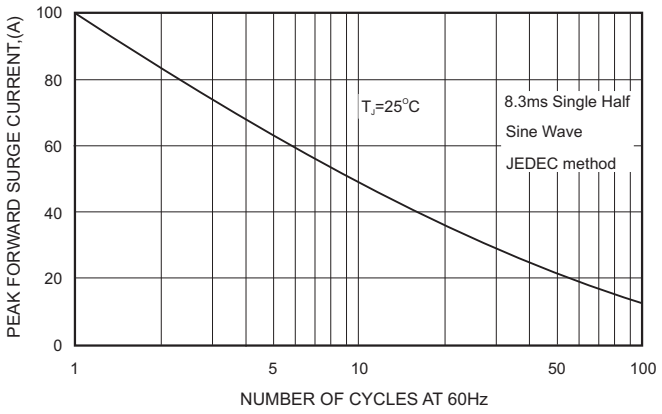
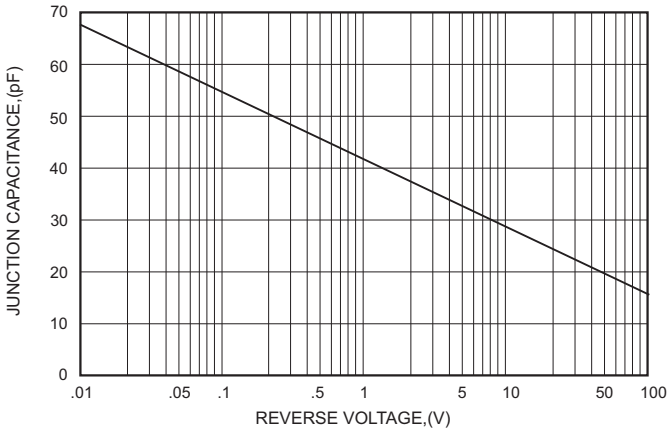


FIG.5-TYPICAL JUNCTION CAPACITANCE



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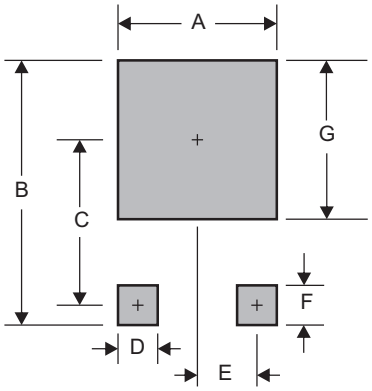
■ DPAK(TO-252) foot print



A	B	C	D	E	F	G
0.276 (7.00)	0.457 (11.60)	0.272 (6.90)	0.059 (1.50)	0.091 (2.30)	0.098 (2.50)	0.276 (7.00)

Dimensions in inches and (millimeters)

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