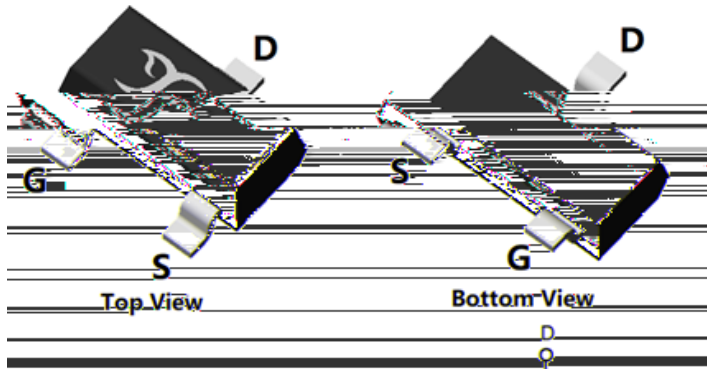
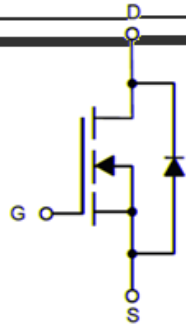


## N-Channel Enhancement Mode Field Effect Transistor



**SOT-23**



### Product Summary

$V_{DS}$	30V
$I_D$	5A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$ )	30m
$R_{DS(ON)}$ (at $V_{GS}=2.5V$ )	35m
$R_{DS(ON)}$ (at $V_{GS}=1.8V$ )	50m

### General Description

- Trench Power MV MOSFET technology
- Voltage controlled small signal switch
- Low input Capacitance
- Fast Switching Speed
- Low Input / Output Leakage
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

### Applications

- Battery operated systems
- Solid-state relays
- Direct logic-level interface TTL/CMOS

### Absolute Maximum Ratings ( $T_A=25$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	$V_{DS}$	30	V
Gate-source Voltage	$V_{GS}$	$\pm 12$	V
Drain Current	$I_D$	$T_A=25$	5
		$T_A=100$	3
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	30	A
Total Power Dissipation <sup>B</sup>	$P_D$	$T_A=25$	1
		$T_A=100$	0.4
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 +150	

### Thermal resistance

Parameter	Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient <sup>C</sup>	$R_{\theta JE}$	100	125	$^{\circ}W$

### Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL3400C	F2	3400C.	3000	30000	120000	Reel



# YJL3400C

## Electrical Characteristics ( $T_J=25$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_{D(M)} \in CE$	30	-	-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30V,$				



## Typical Electrical and Thermal Characteristics Diagrams

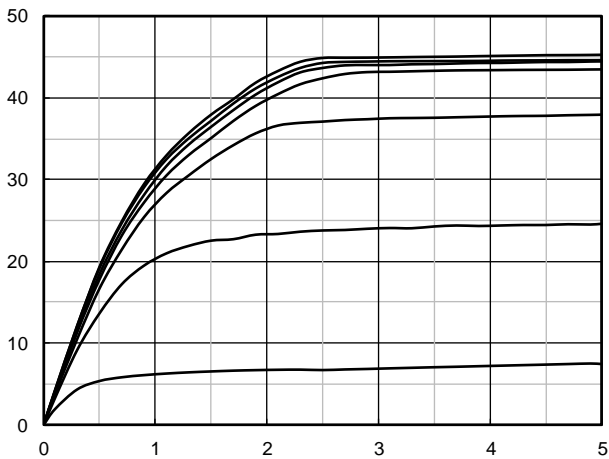


Figure 1. Output Characteristics

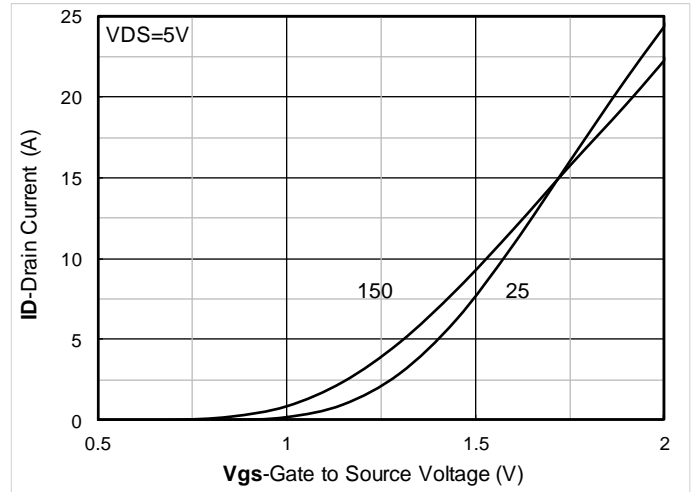


Figure 2. Transfer Characteristics

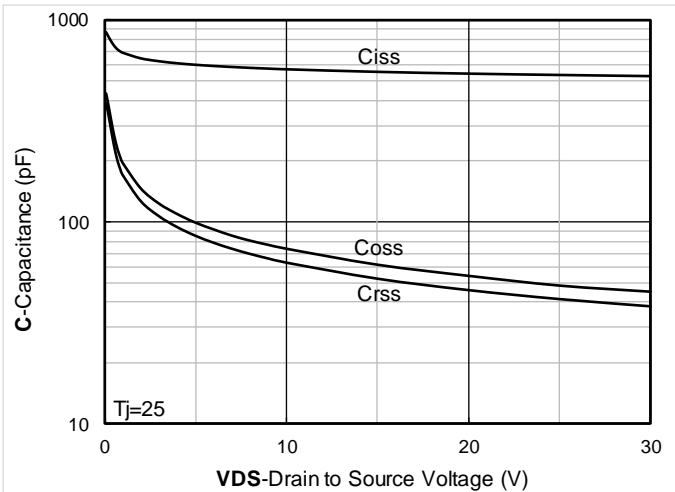


Figure 3. Capacitance Characteristics

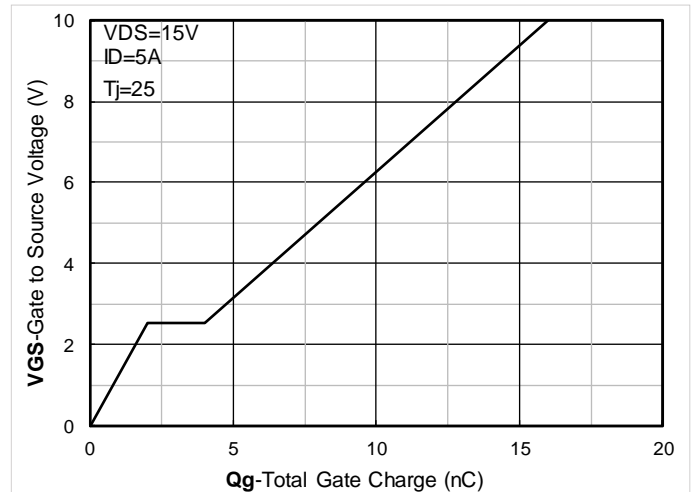


Figure 4. Gate Charge

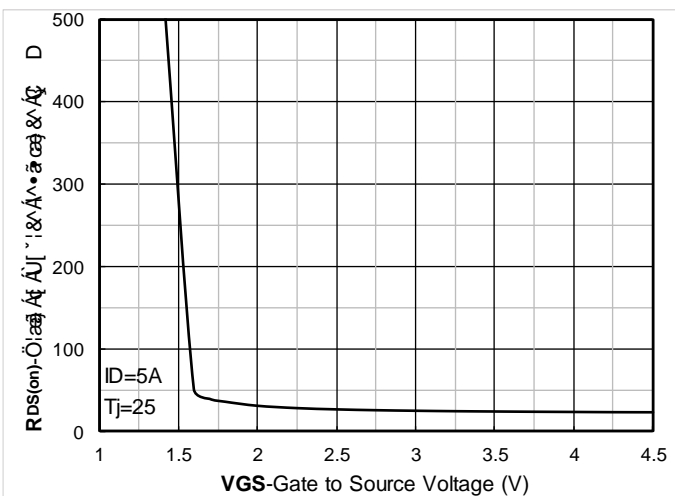


Figure 5. On-Resistance vs Gate to Source Voltage

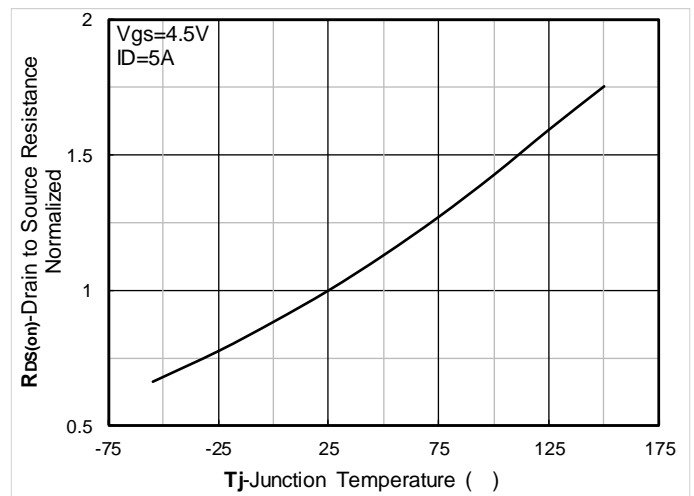


Figure 6. Normalized On-Resistance



# YJL3400C

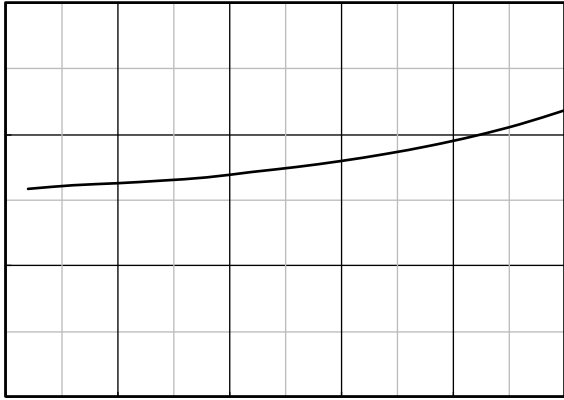


Figure 7.  $R_{DS(on)}$  VS Drain Current

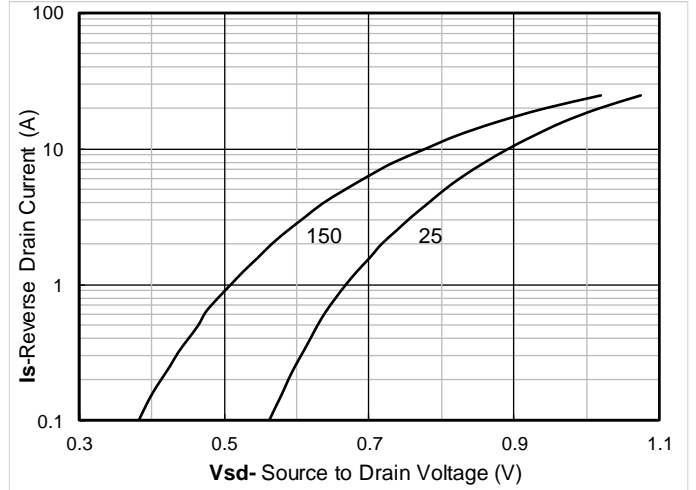


Figure 8. Forward characteristics of reverse diode

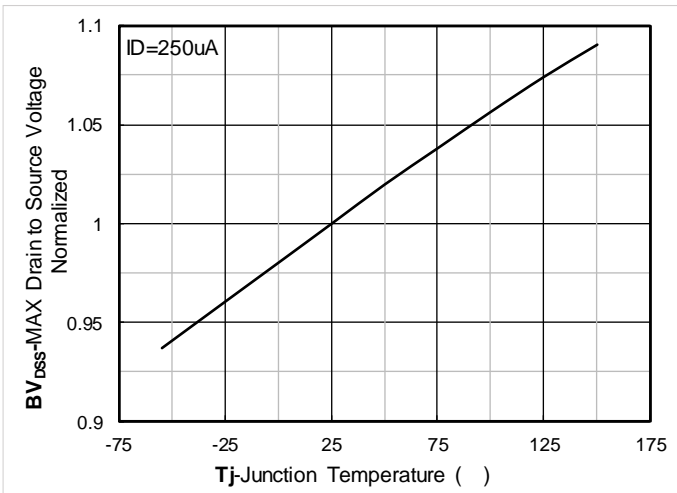


Figure 9. Normalized breakdown voltage

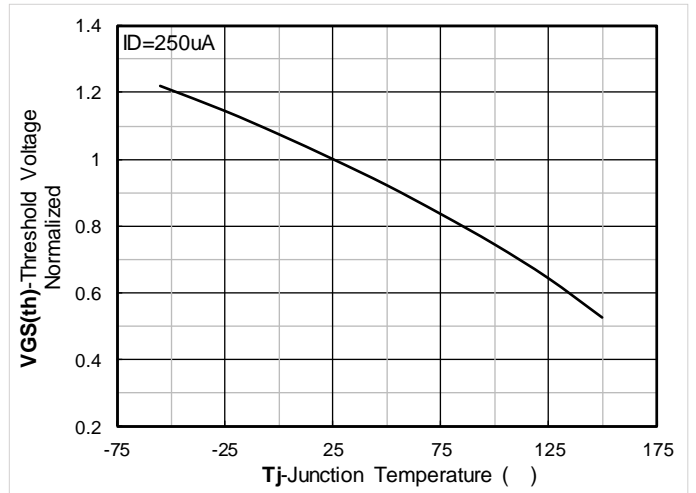


Figure 10. Normalized Threshold voltage

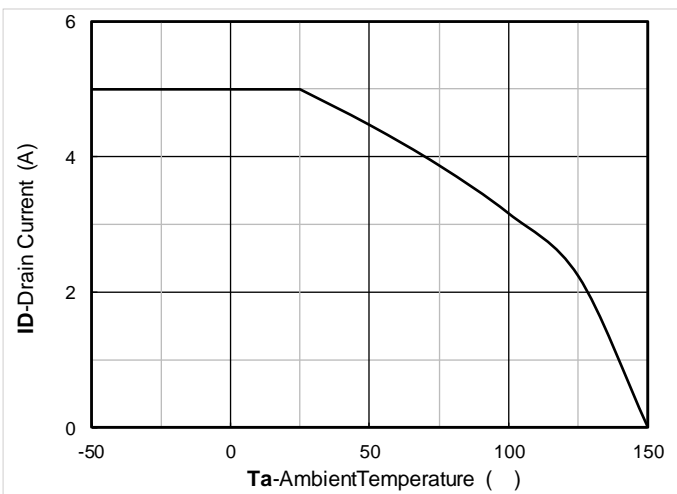


Figure 11. Current dissipation

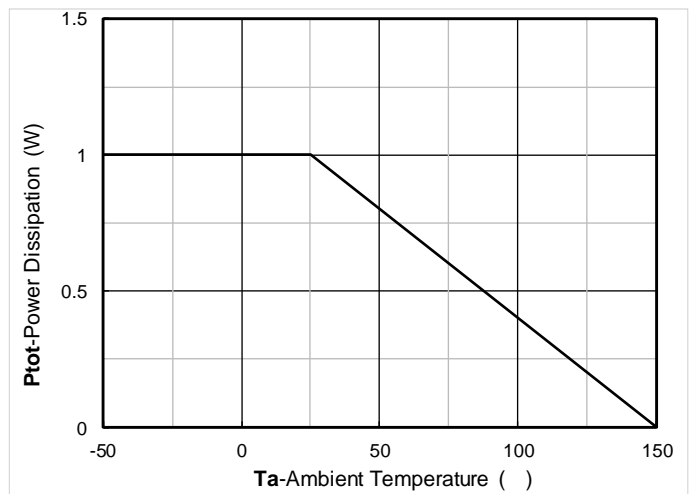


Figure 12. Power dissipation

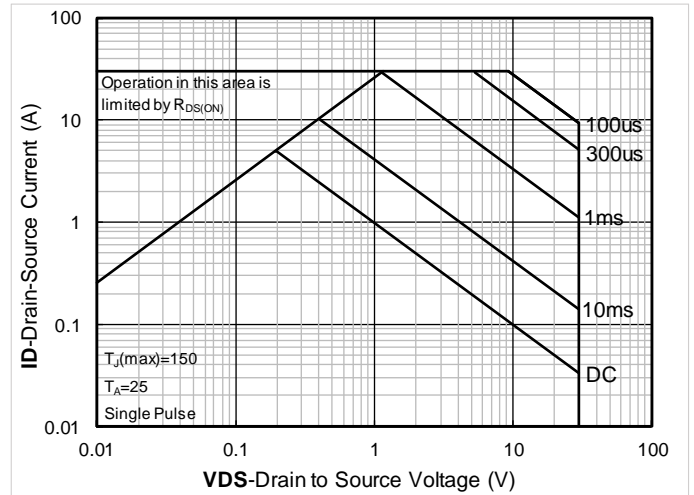


Figure 13. Maximum Transient Thermal Impedance

Figure 14. Safe Operation Area

## Test Circuits & Waveforms

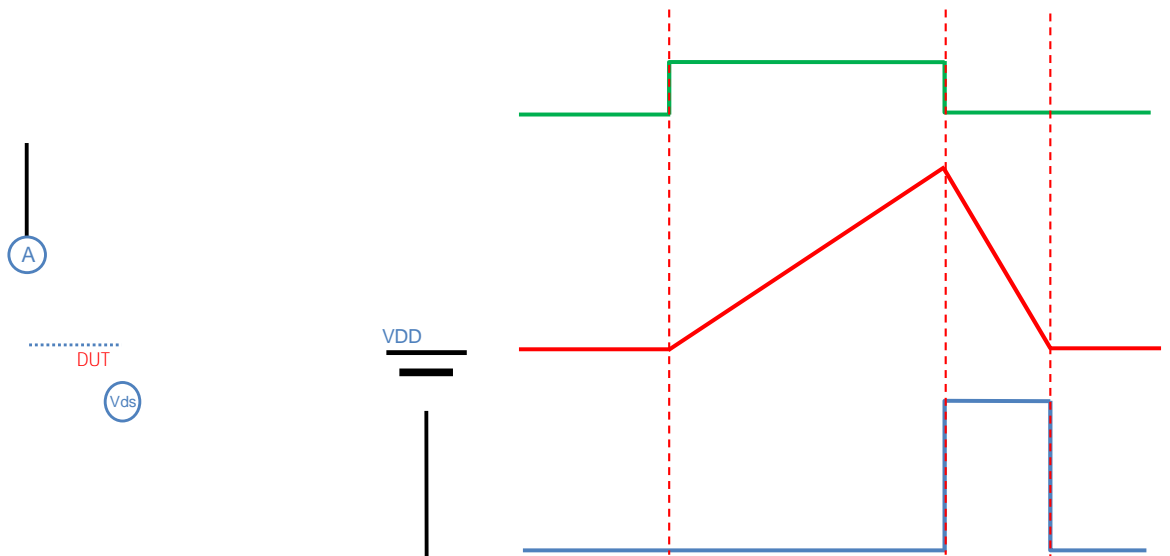


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

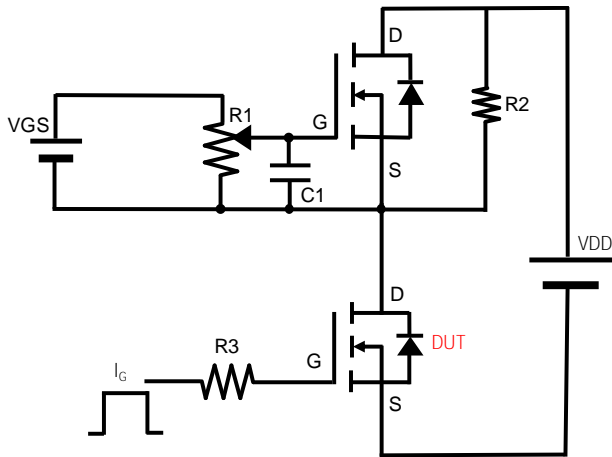


Figure B. Gate Charge Test Circuit & Waveform

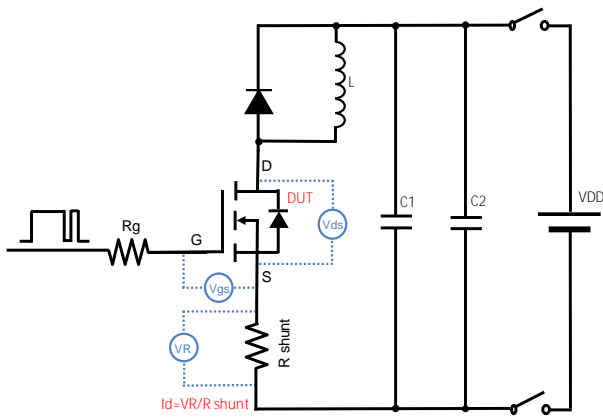


Figure C. Resistive Switching Test Circuit & Waveform

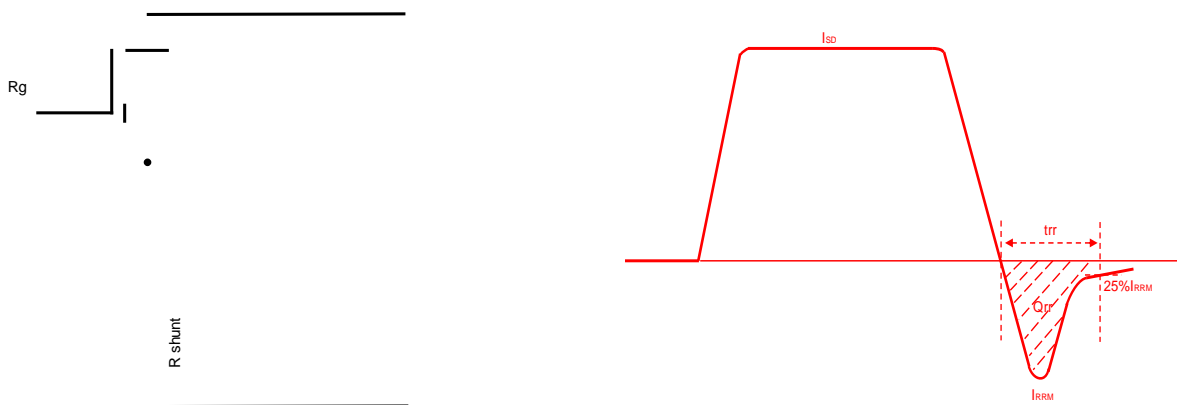
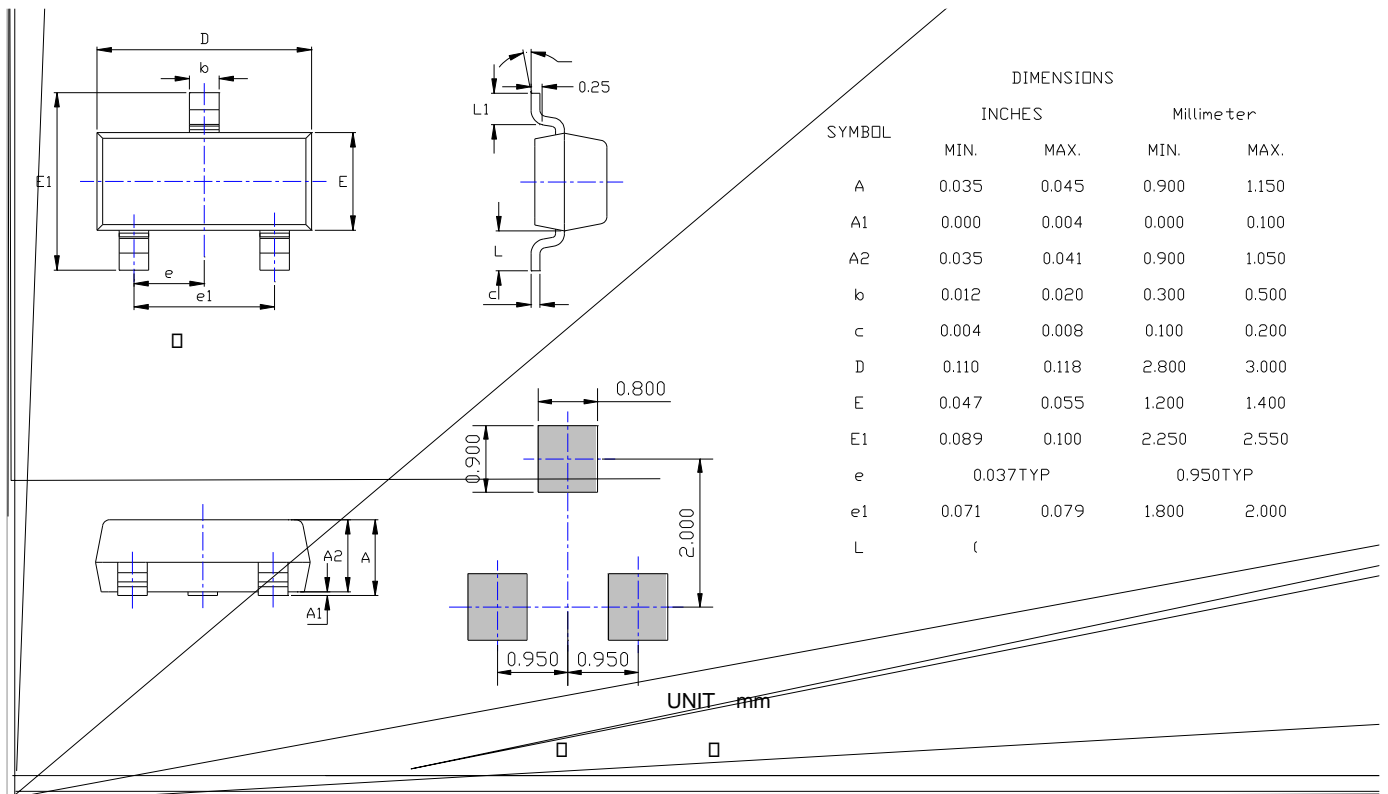


Figure D. Diode Recovery Test Circuit & Waveform



# YJL3400C

## SOT-23 Package information





# YJL3400C

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