N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 25V
- I_D 0.38A
- $R_{DS(ON)}$(at V_{GS}=10V) 1Ω
- $R_{DS(ON)}$(at V_{GS}=4.5V) 1.2Ω
- $R_{DS(ON)}$(at V_{GS}=2.5V) 2.5Ω
- ESD Protected Up to 2KV (HBM)

General Description

- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Motherboard I2C/SMBUS signal lines switches

■ Limiting Values

Parameter	Conditions	Symbol	Min	Max	Unit
Drain-source Voltage		V_{DS}	-	25	V
Gate-source Voltage					

en-0 g0 GI-)BT/2 8.T/F5 8r0 1 14

Typical Electrical and Thermal Characteristics Diagrams

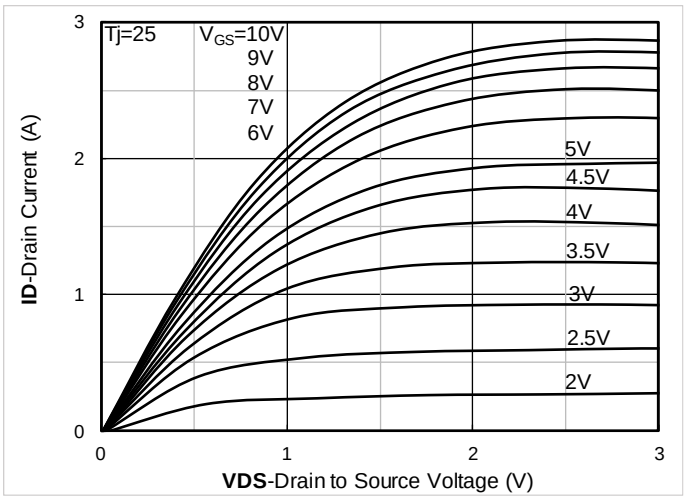


Figure 1. Output Characteristics; typical values

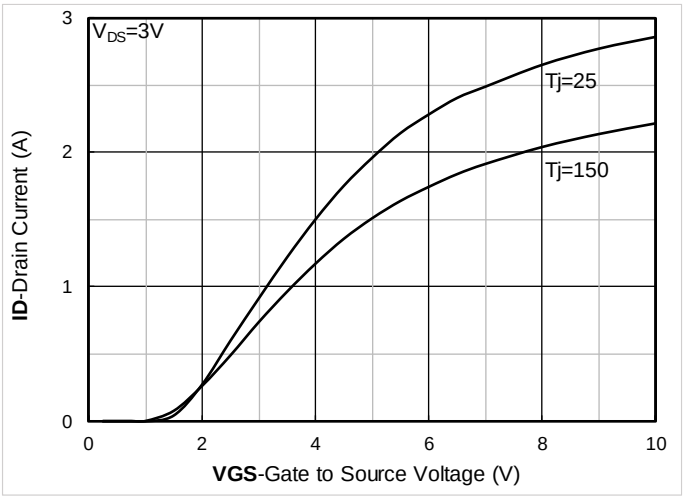


Figure 2. Transfer Characteristics; typical values

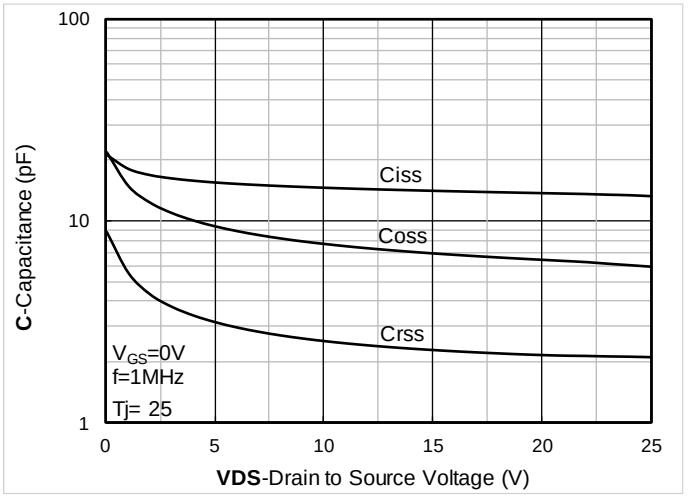


Figure 3. Capacitance Characteristics; typical values

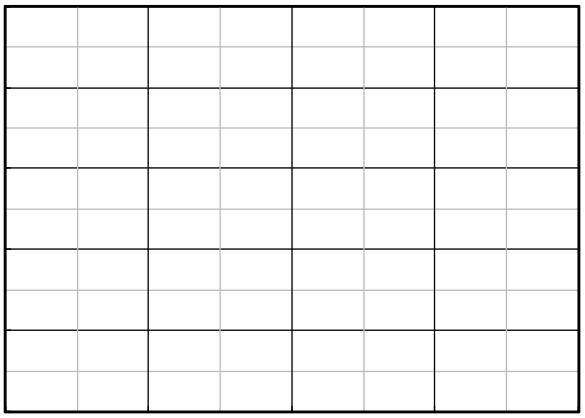


Figure 4. Gate Charge; typical values

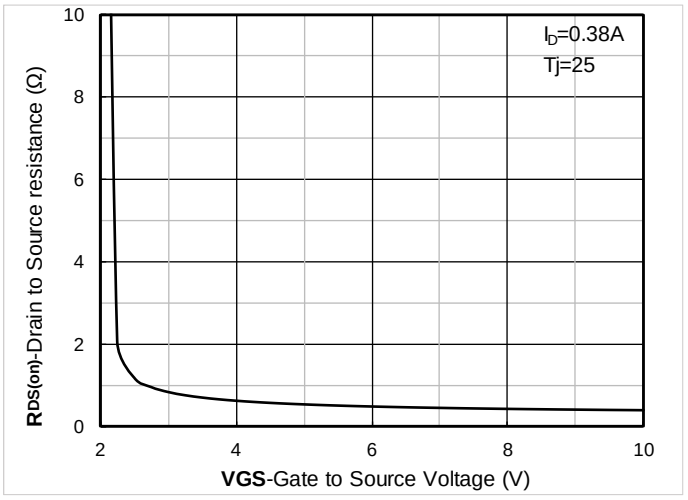
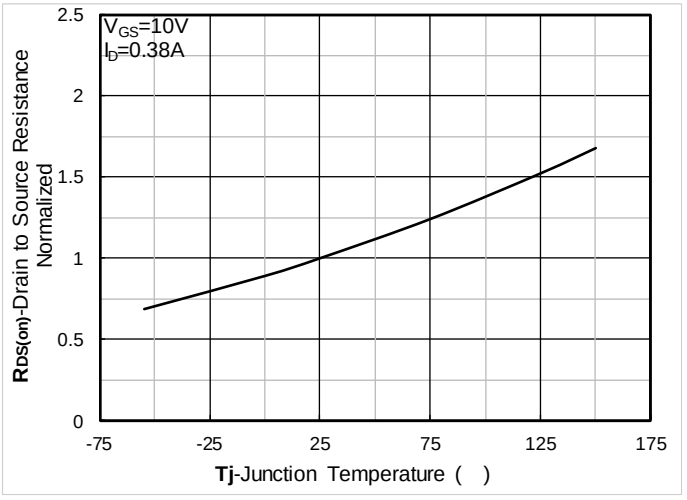


Figure 5. On-Resistance vs. Gate to Source Voltage; typical values



Figureg0 G[t)-10(y)18(p)-9(i)5(c)-17(al)7( )-10(v)6(a

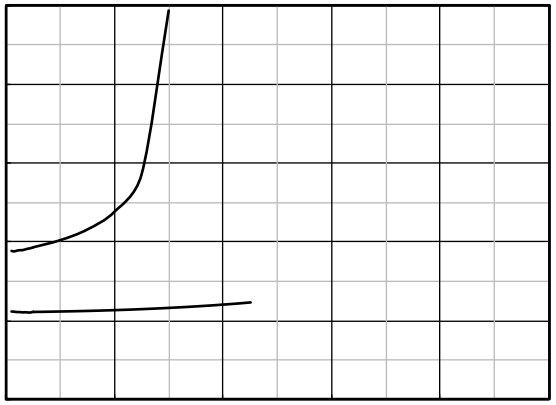


Figure 7. $R_{DS(on)}$ vs. Drain Current; typical values

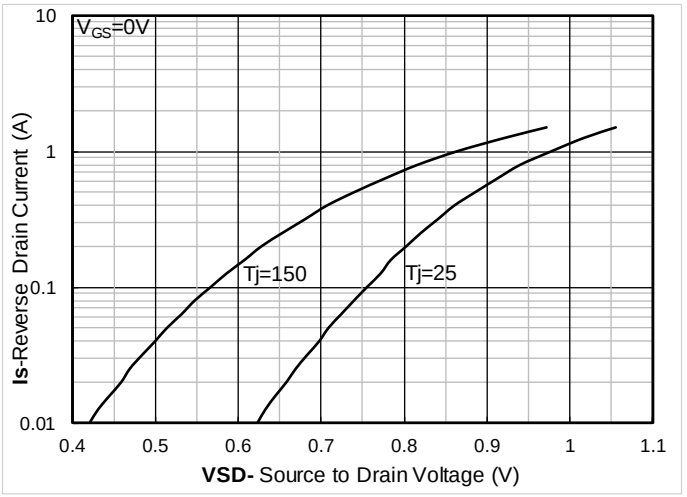


Figure 8. Forward characteristics of reverse diode; typical values

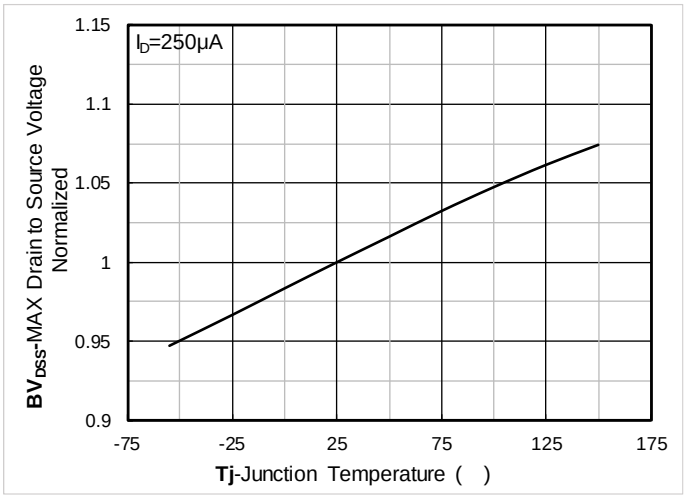


Figure 9. Normalized breakdown voltage

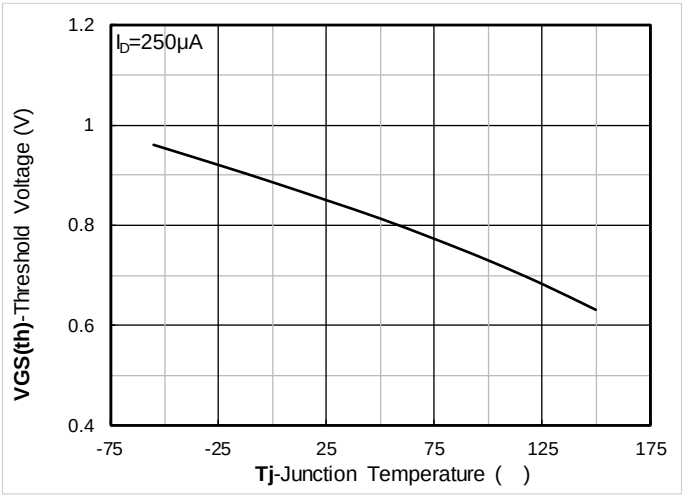


Figure 10. Normalized Threshold voltage

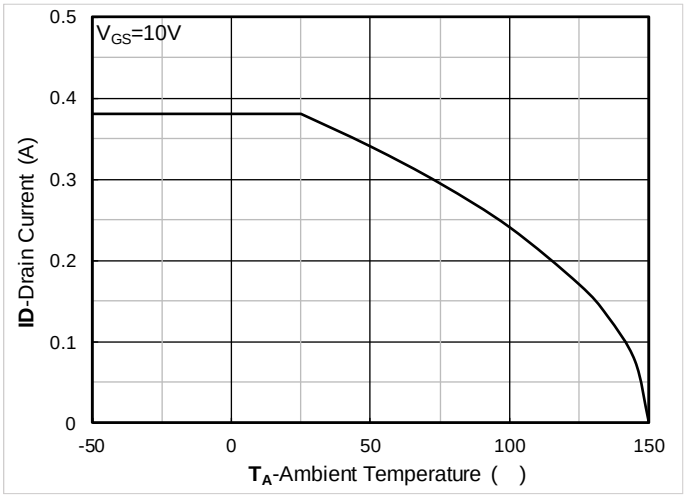


Figure 11. Current dissipation

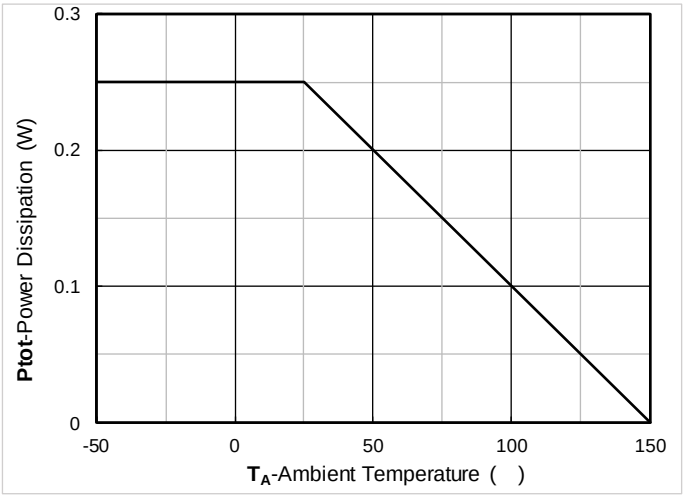


Figure 12. Power dissipation

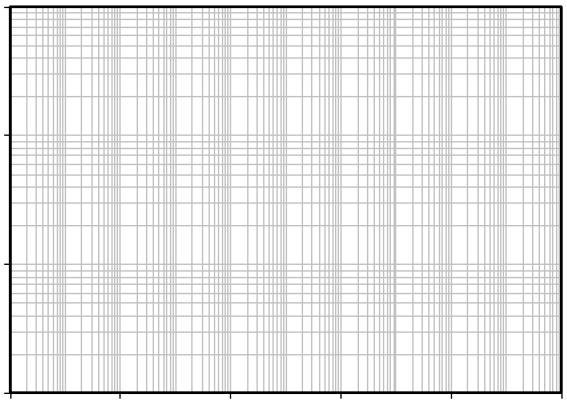


Figure 13. Maximum Transient Thermal Impedance

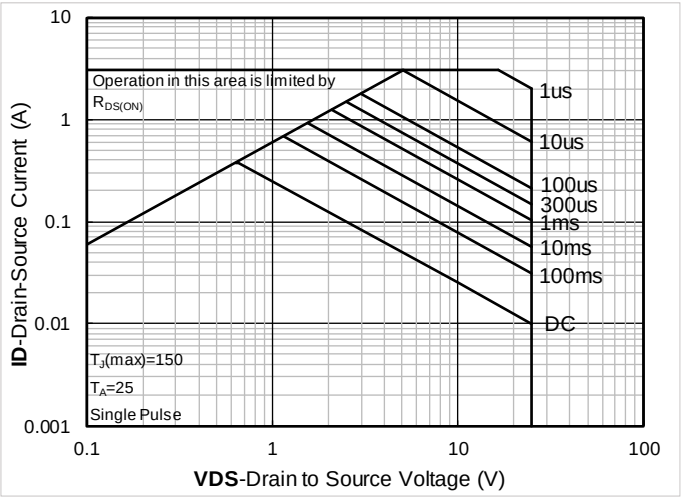


Figure 14. Safe Operation Area

■ Test Circuits & Waveforms

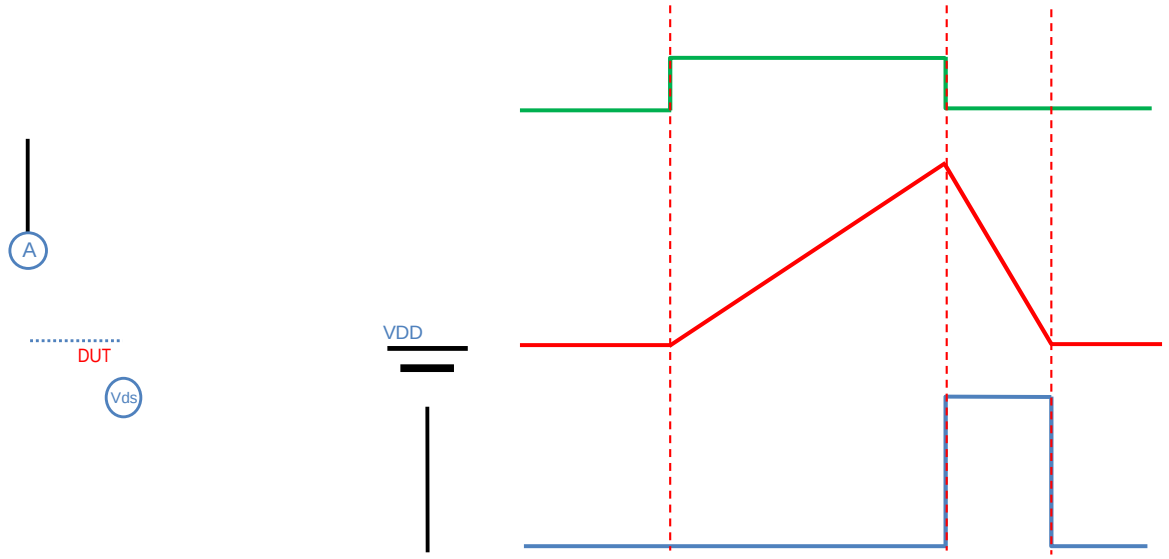


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

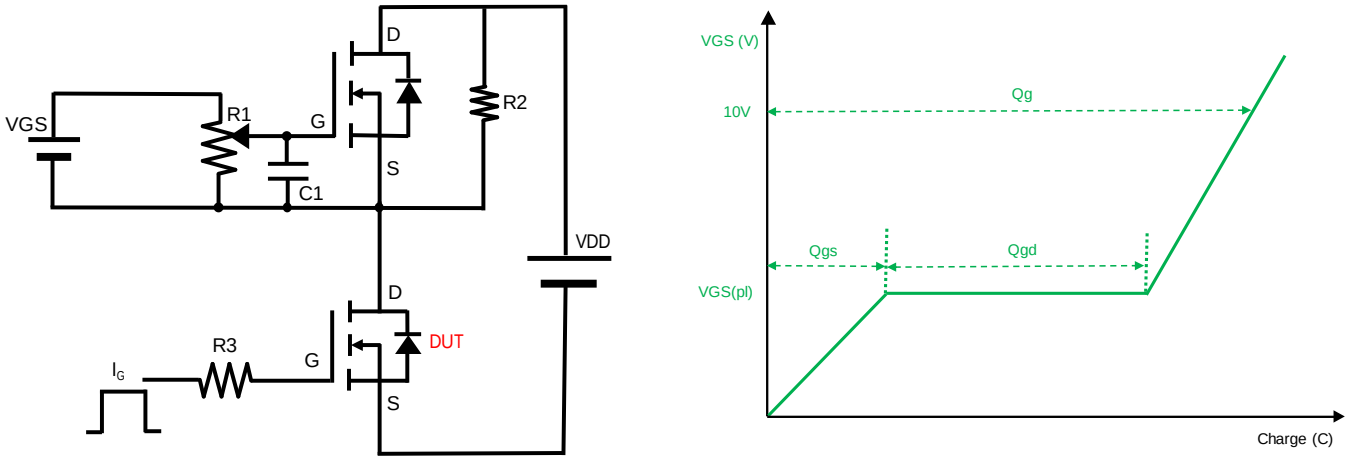


Figure B. Gate Charge Test Circuit & Waveform

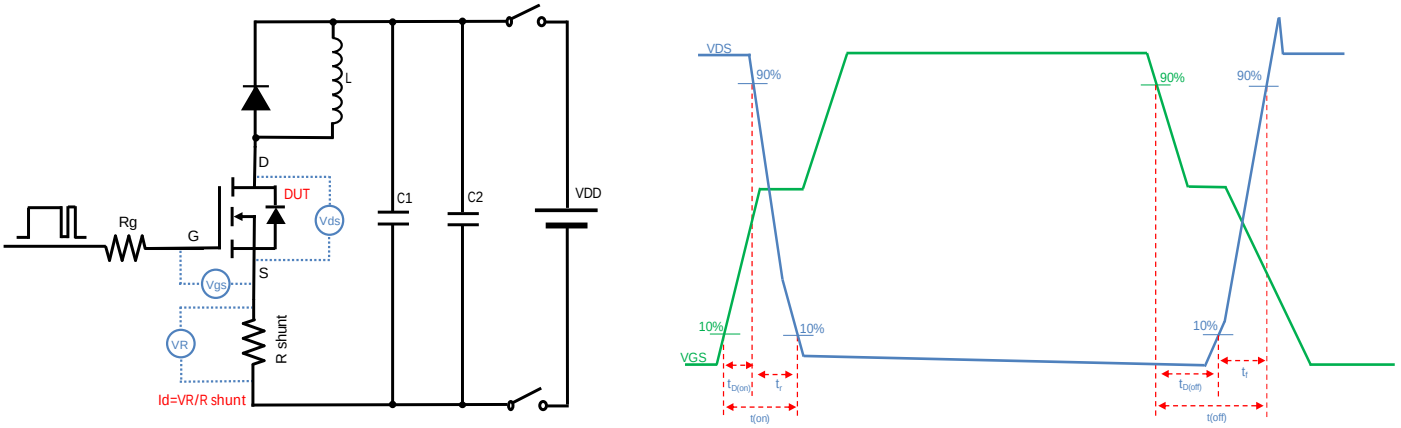


Figure C. Resistive Switching Test Circuit & Waveform

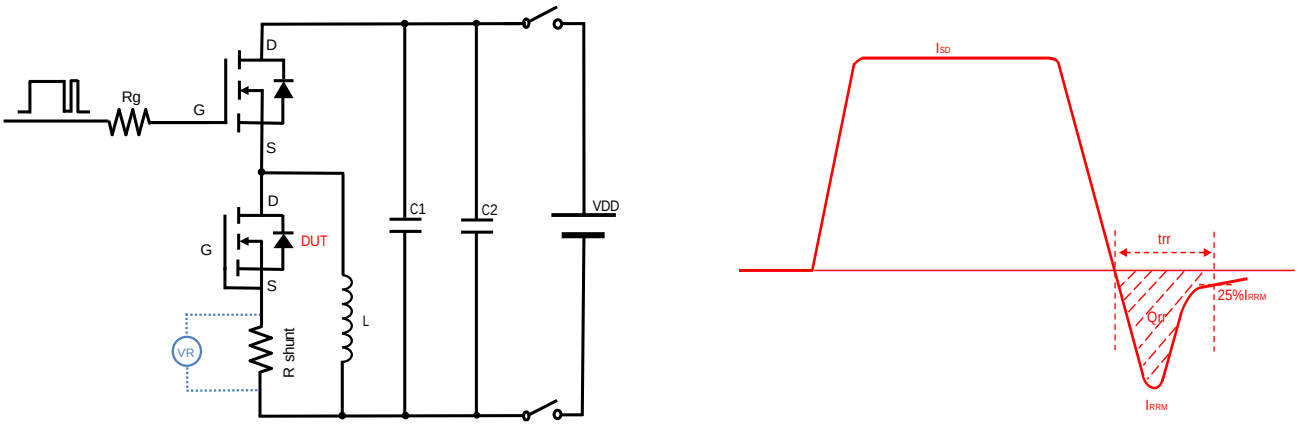
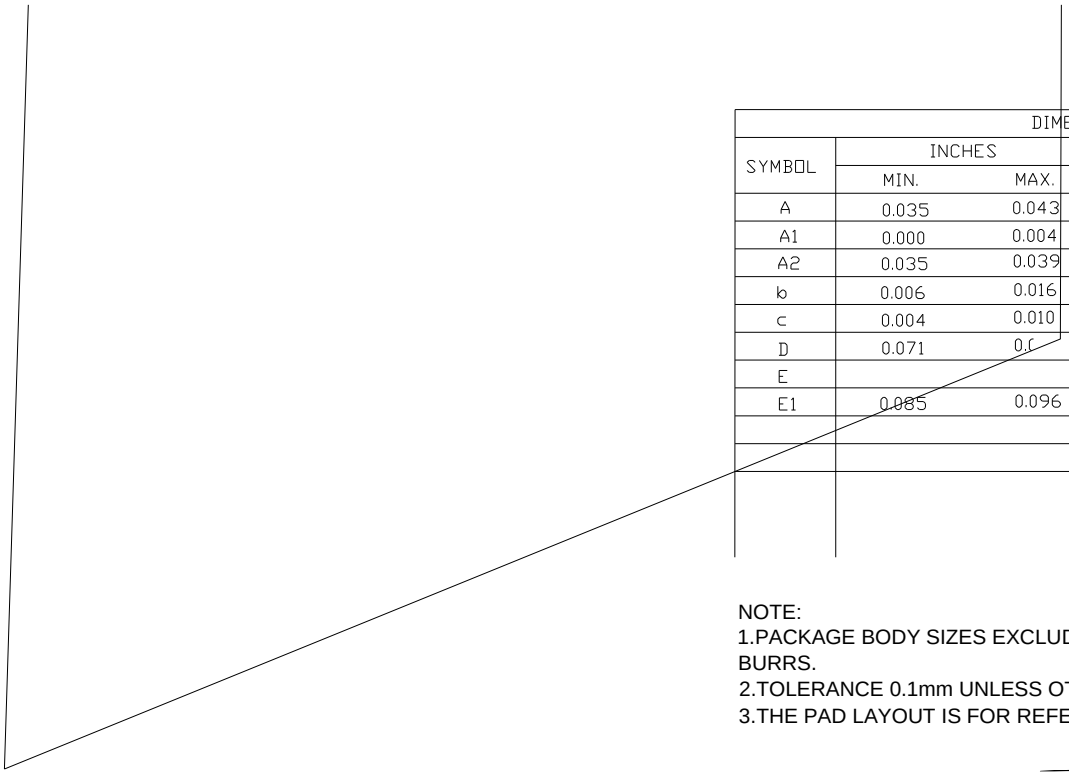


Figure D. Diode Recovery Test Circuit & Waveform

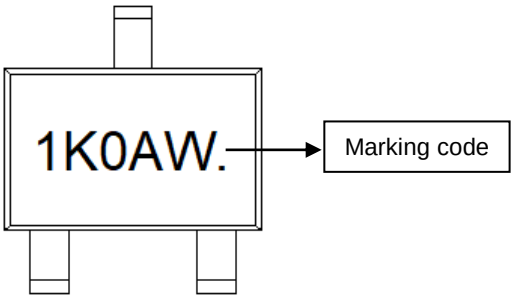
■ SOT-323 Package information



DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.(	1.800	2.200
E				
E1	0.085	0.096	2.150	2.450

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



Note
1. All marking is at middle of the product body
2. All marking is in laser printing
3. 1K0AW. is marking code
4. Body color: Black

Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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