



N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 100V
- I_D 55A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) 12m Ω
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) 16m Ω
- 100% EAS Tested
- 100% V_{DS} Tested

General Description

- Split gate trench MOSFET technology
- 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

Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor

■ Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

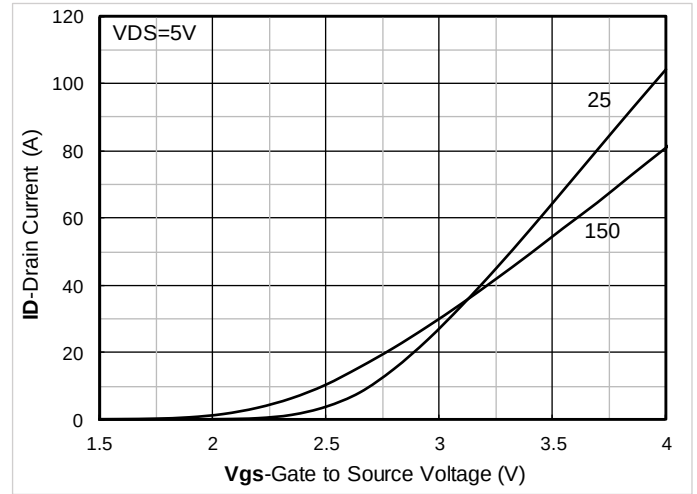
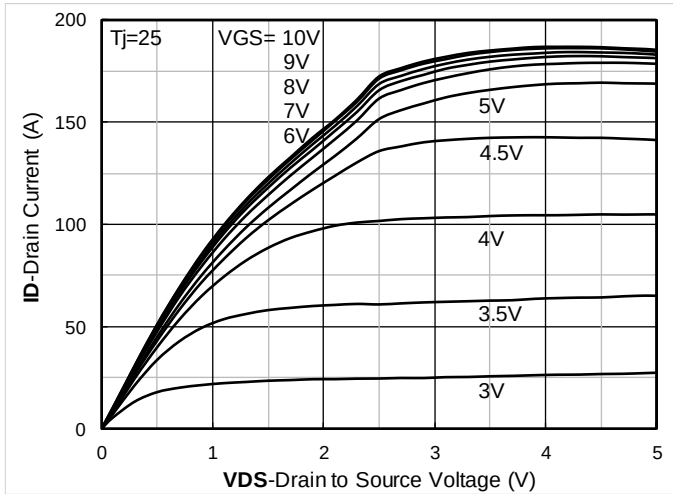
Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	100	V

GaTQ42 Tm02 0.48001 19.92 ref*500.83 45968.06 664.75 Tm0 g0 G(T)



YJG55G10A

■ Typical Electrical and Thermal Characteristics Diagrams



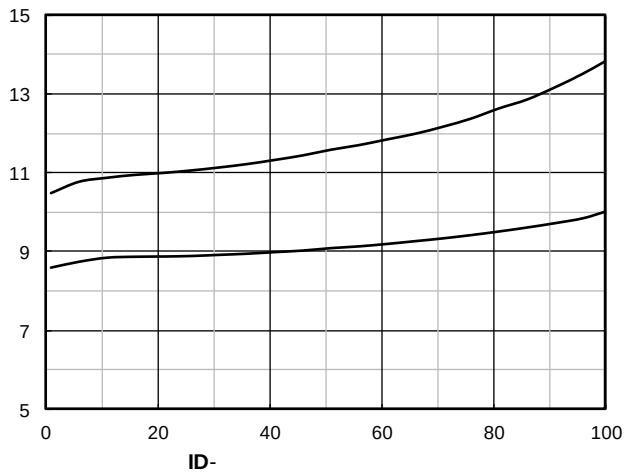


Figure 7. $R_{DS(on)}$ VS Drain Current

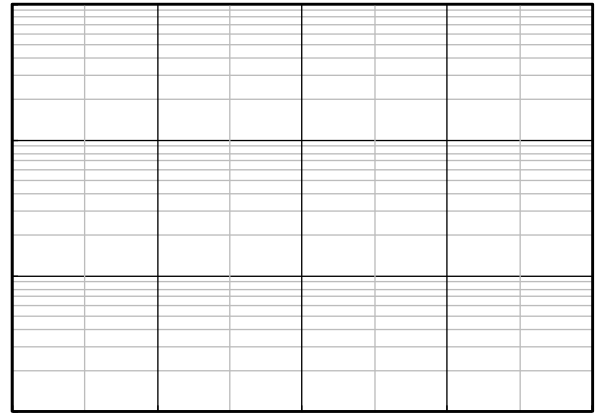


Figure 8. Forward characteristics of reverse diode

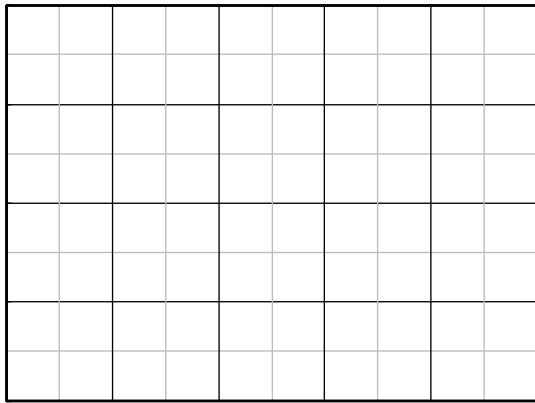


Figure 9. Normalized breakdown voltage

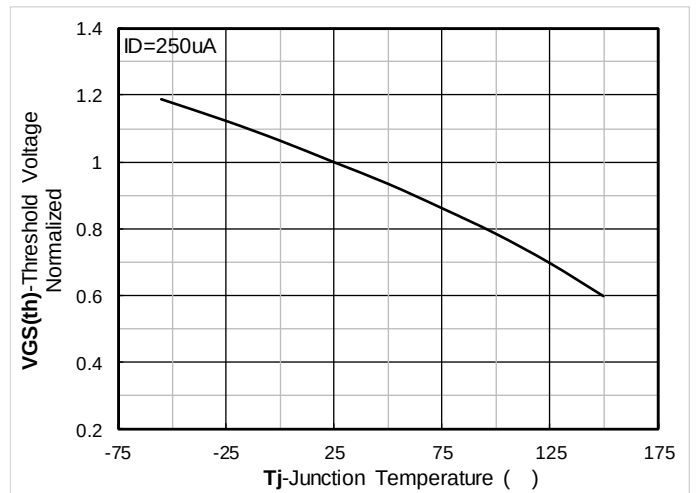


Figure 10. Normalized Threshold voltage

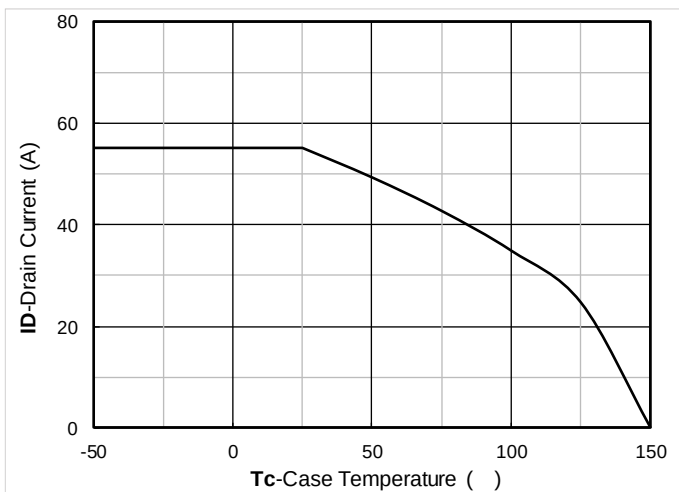


Figure 11. Current dissipation

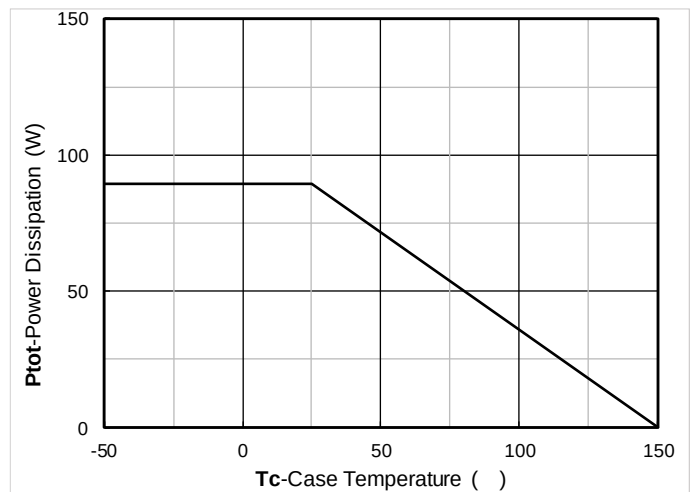


Figure 12. Power dissipation

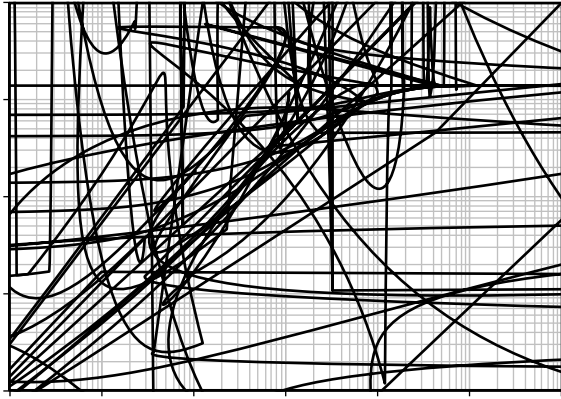


Figure 13. Maximum Transient Thermal Impedance

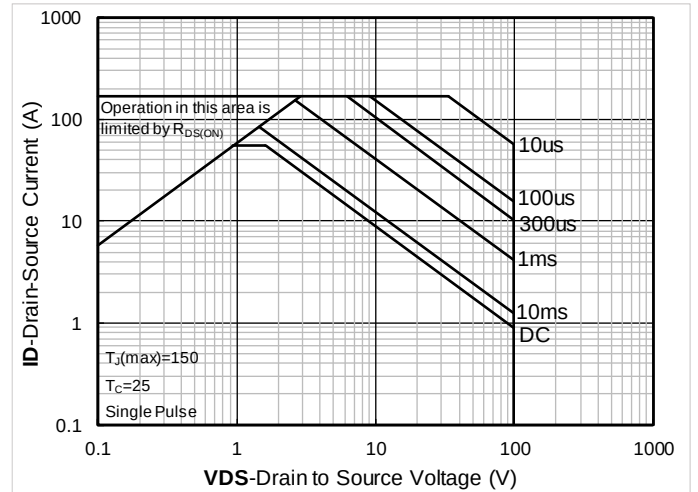


Figure 14. Safe Operation Area

■ Test Circuits & Waveforms

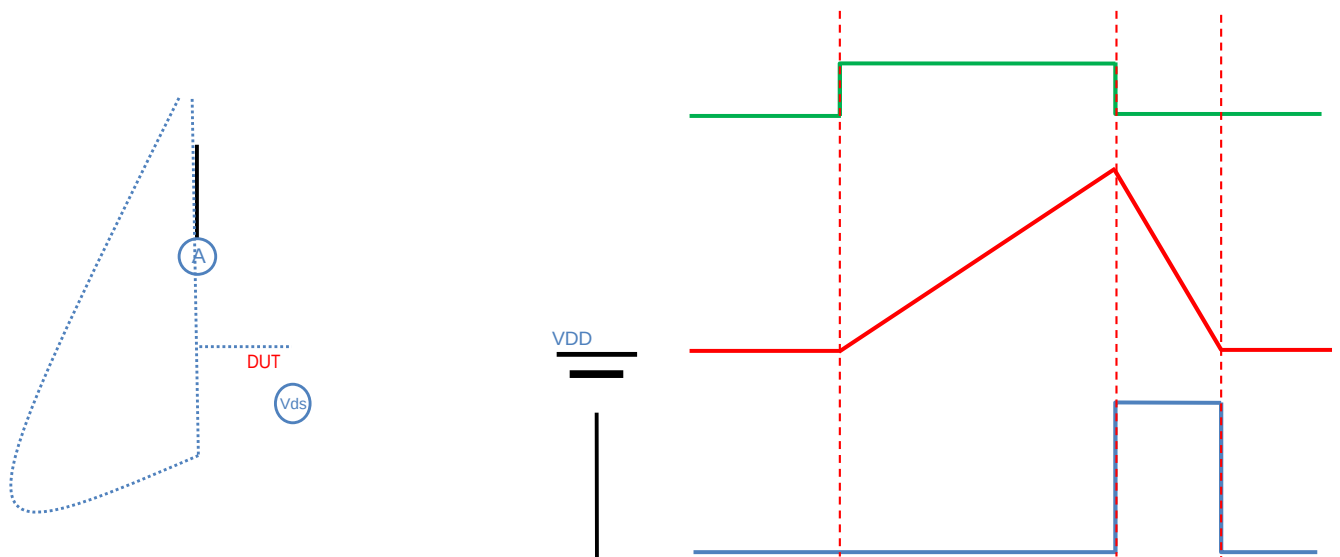


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

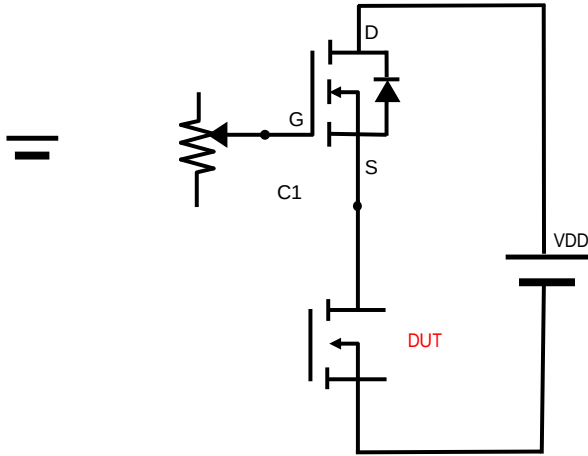


Figure B. Gate Charge Test Circuit & Waveform

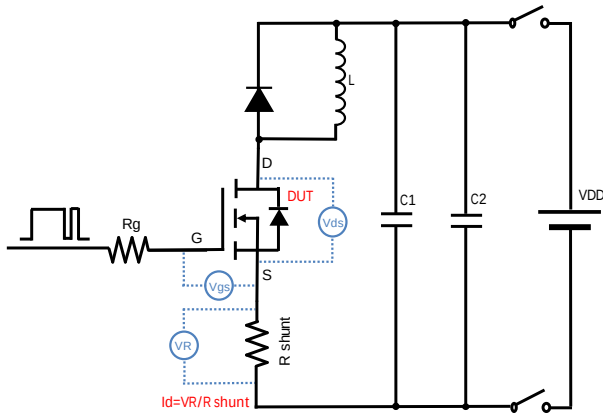


Figure C. Resistive Switching Test Circuit & Waveform

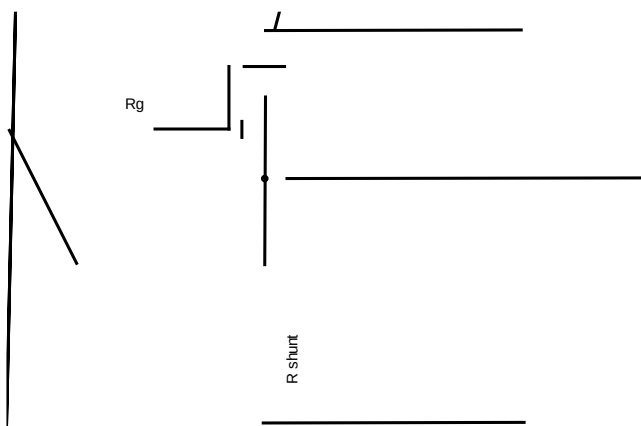
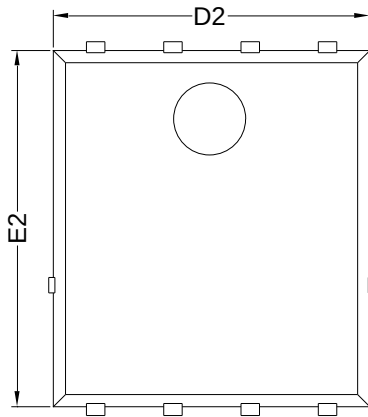


Figure D. Diode Recovery Test Circuit & Waveform

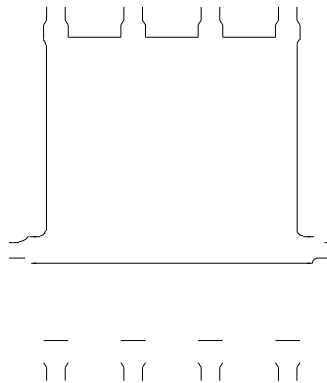


YJG55G10A

■ PDFN5060-8L-B-1.1MM Package information



Top View



Bottom View

Side View

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	5.15	5.35	5.55
E	5.95	6.15	6.35
A	1.00	1.10	1.20
A1	0.254 BSC		
A2			0.10
D1	3.92	4.12	4.32
E1	3.52	3.72	3.92
D2	5.00	5.20	5.40
E2	5.66	5.86	6.06
E3	0.254 REF		
E4	0.21 REF		
L1	0.56	0.66	0.76
L2	0.50 BSC		
b	0.31	0.41	0.51
e	1.27 BSC		

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.10 mm.
3. The pad layout is for reference purposes only.

