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YJGD45N03B
FOR NEW DESIGN

N-Channel and N-Channel Complementary MOSFET

Product Summary

- V_{DS} 30V
- I_D 45A
- $R_{DS(ON)}$(at V_{GS}=10V) 9mΩ
- $R_{DS(ON)}$(at V_{GS}=4.5V) 12mΩ
- 100% EAS 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 3
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

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

■ 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}	±20	V
Drain Current	T_A=25	I_D	12	A
	T_A=100		7.5	
	T_C=25		45	
	T_C =100		28	
Pulsed Drain Current [A]		I_{DM}	180	A
Avalanche energy [B]		EAS	128	mJ
Total Power Dissipation [C]	T_A=25	P_D	2.5	W
	T_A=100		1	
	T_C=25		100	
	T_C =100		40	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

■Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient [D]	Steady-State	$R_{\theta JA}$	40	50	/W
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	1	1.25	

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	

Typical Electrical and Thermal Characteristics Diagrams

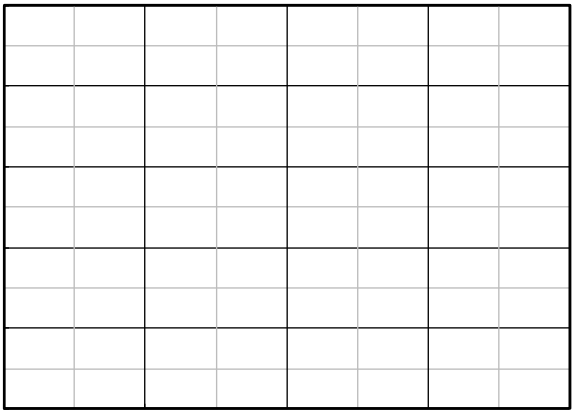

Figure 1. Output Characteristics

Figure 2. Transfer Characteristics

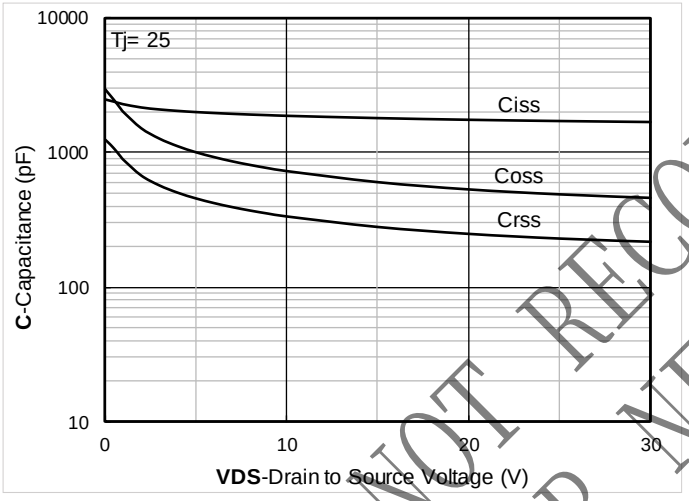

Figure 3. Capacitance Characteristics

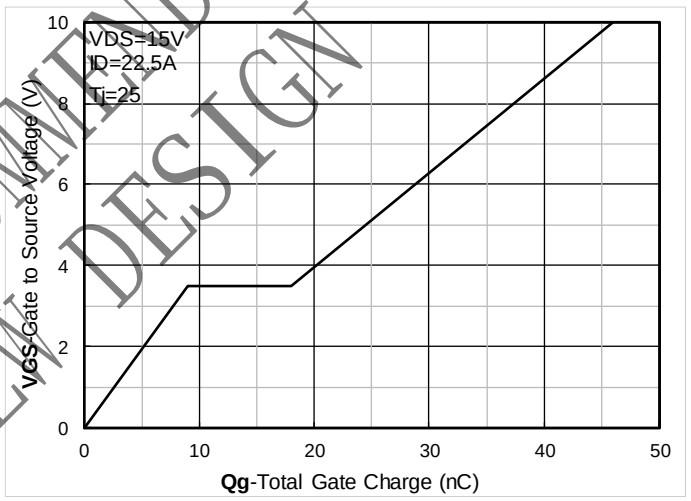

Figure 4. Gate Charge

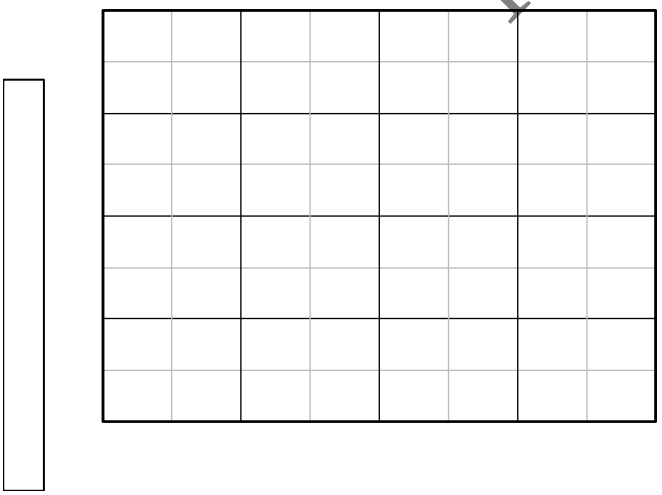

Figure 5. On-Resistance vs Gate to Source Voltage

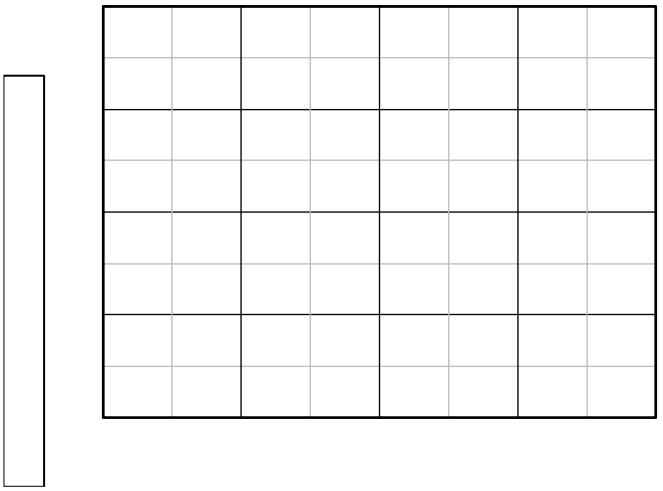

Figure 6. Normalized On-Resistance

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