



## N-Channel and P-Channel Complementary MOSFET



### Product Summary NMOS

$V_{DS}$	100V
$I_D$	40A
$R_{DS(ON)}$ ( at $V_{GS}=10V$ )	24m
$R_{DS(ON)}$ ( at $V_{GS}=4.5V$ )	30m
100% EAS O	
100% $V_{DS}$ TeO	

### PMOS

$V_{DS}$	-100V
$I_D$	-12A
$R_{DS(ON)}$ ( at $V_{GS}=-10V$ )	115m
$R_{DS(ON)}$ ( at $V_{GS}=-4.5V$ )	138m
100% EAS Tested	
100% $V_{DS}$ Tested	

### General Description

- Excellent package for heat dissipation
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

### Applications

- Load switching
- Hard switched and high frequency circuits
- Uninterruptible power supply

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

Parameter	Symbol		NMOS	PMOS	Unit
Drain-source Voltage	$V_{DSU}$	M	100	-100	V
$D \leq 1\%$					
			4.7	-2.0	
			40	-12	

c	$T_A=25$	$P_D$	2.5	2.5	W
	$T_A=100$		1	1	
	$T_C=25$		104	69	
	$T_C=100$		41	27	
Junction and Storage Temperature Range		$T_J, T_{STG}$	-55 +150	-55 +150	

### Thermal resistance

Parameter	Symbol	NMOS		PMOS		Units	
		Typ	Max	Typ	Max		
Thermal Resistance Junction-to-Ambient <sup>D</sup>	Steady-State	$R_{JA}$	40	50	40	50	/W
Thermal Resistance Junction-to-Case	Steady-State	$R_{JC}$	1	1.2	1.5	1.8	



# YJG12NP10BQ

## Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG12NP10BQ	F1	YJG12NP10B	5000	10000	100000	13" reel

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D$				





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## NMOS Typical Electrical and Thermal Characteristics Diagrams

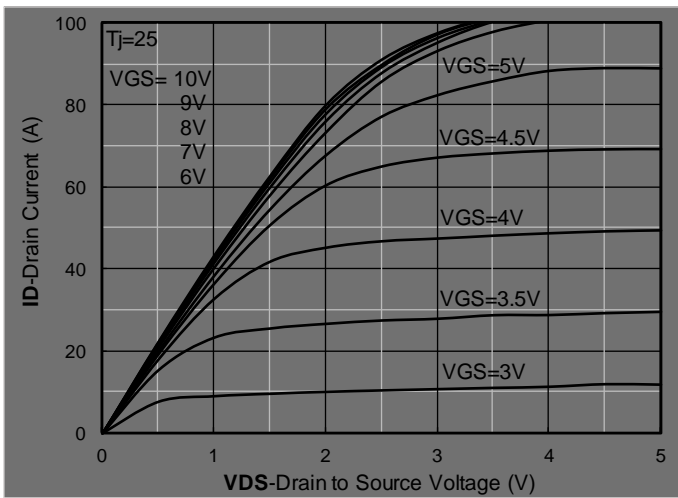


Figure 1. Output Characteristics

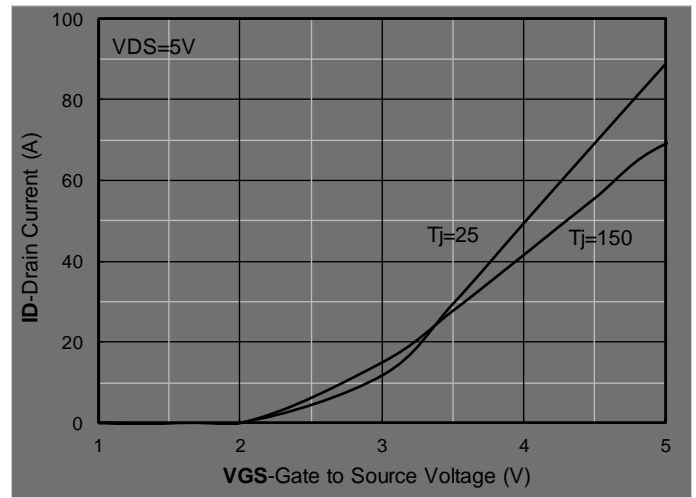
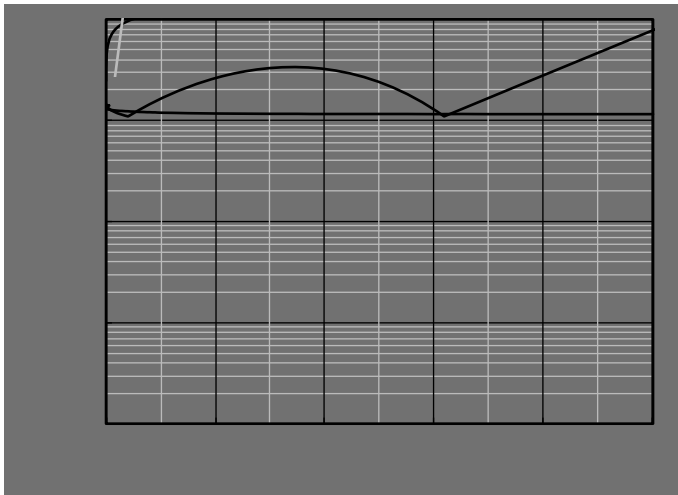


Figure 2. Transfer Characteristics





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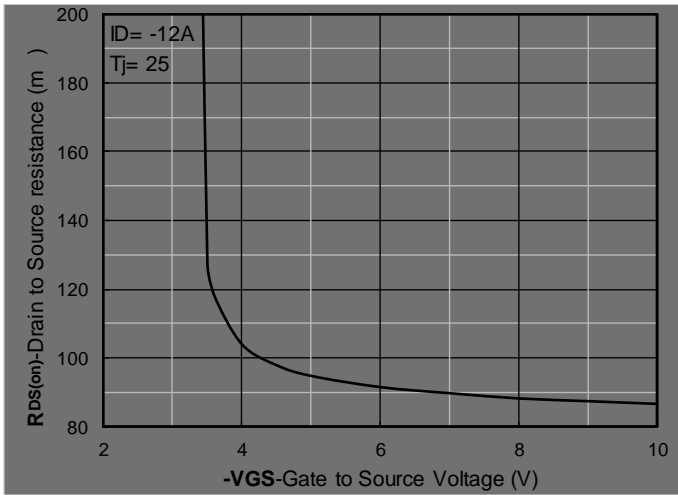


Figure 5. On-Resistance vs Gate to Source Voltage

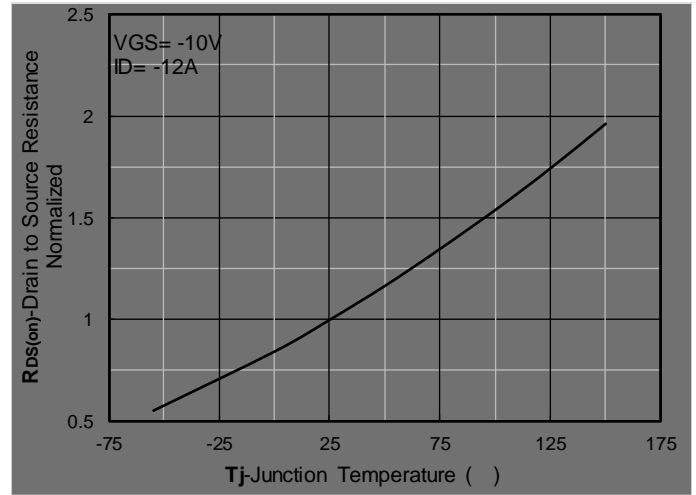
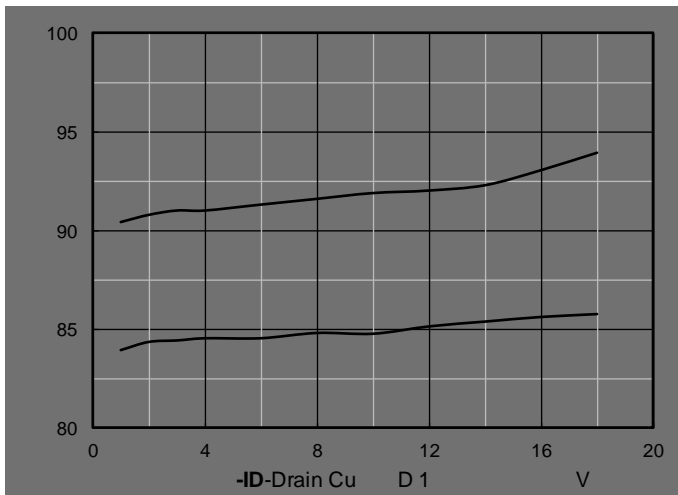
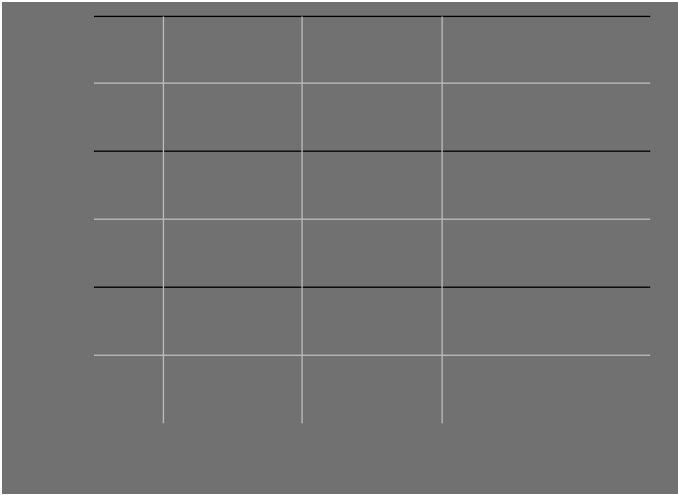


Figure 6. Normalized On-Resistance

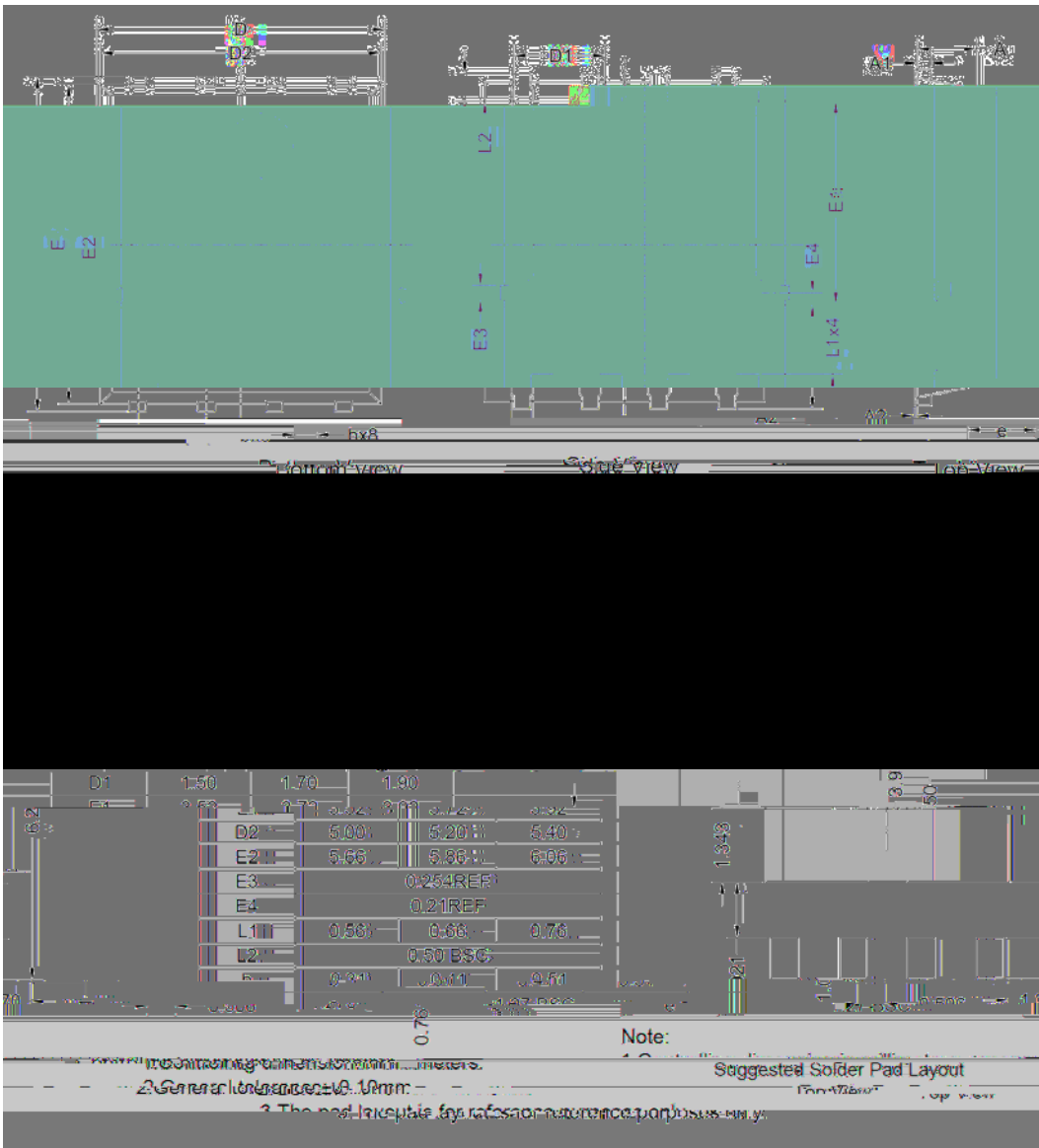






# YJG12NP10BQ

## PDFN5060-8L Package information





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