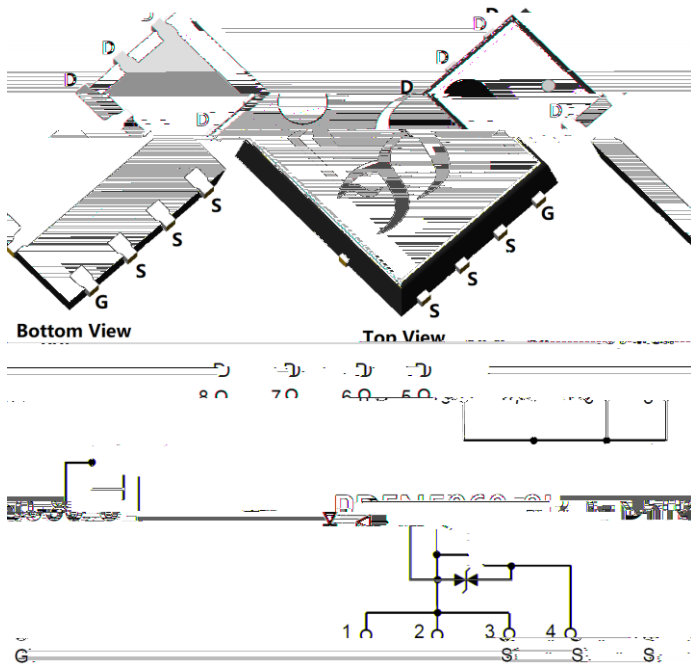




## P-Channel Enhancement Mode Field Effect Transistor



## Product Summary

$V_{DS}$	-60V
$I_D$	-46A
$R_{DS(ON)}$ ( at $V_{GS}=-10V$ )	27m
100% EAS Tested	
100% $V_{DS}$ Tested	
ESD Level(HBM)	Class 3A

## 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  
 Part no. with suffix "Q" means AEC-Q101 qualified

## Applications

Power management functions  
 Synchronous-rectification application  
 DC-DC convertor

## Limiting Values

Parameter	Conditions	Symbol	Min	Max	Unit	
Drain-source Voltage		$V_{DS}$	-	-60	V	
Gate-source Voltage (Note 4)		$V_{GS}$	-20	20		
Continuous Drain Current (Note 1,2)	Steady-State	$I_D$	$T_A=25^{\circ}C, V_{GS}=-10V$	-	-6.7	A
			$T_A=100^{\circ}C, V_{GS}=-10V$	-	-4.7	
Continuous Drain Current (Note 1,3)	Steady-State		$T_C=25^{\circ}C, V_{GS}=-10V, \text{Chip limitation}$	-	-46	
			$T_C=100^{\circ}C, V_{GS}=-10V$	-	-32	
Pulsed Drain Current	$T_C=25^{\circ}C, t_p \leq 10\mu s$	$I_{DM}$	-	-160		
Maximum Body-Diode Continuous Current	$T_C=25^{\circ}C$	$I_S$	-	-46		
Avalanche Energy (non-repetitive)	$T_J=25^{\circ}C, V_G=-10V, R_G=25\Omega, L=0.5mH, I_{AS}=-21A$	EAS	-	110.25	mJ	
Total Power Dissipation (Note 1,2)	Steady-State	$P_D$	$T_A=25^{\circ}C$	-	2.6	W
			$T_A=100^{\circ}C$	-	1.3	
Total Power Dissipation (Note 1,3)	Steady-State		$T_C=25^{\circ}C$	-	125	
			$T_C=100^{\circ}C$	-	62.5	
Junction and Storage Temperature Range		$T_J, T_{STG}$	-55	175	$^{\circ}C$	

## Thermal Resistance

Parameter	Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient (Note 2)	$R_{JA}$	-	56	$^{\circ}C/W$
Thermal Resistance Junction-to-Case	$R_{JC}$	-	1.2	

## Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG027P06AKHQ	F1	YJG027P06AK	5000	10000	100000	13" reel





## Typical Electrical and Thermal Characteristics Diagrams

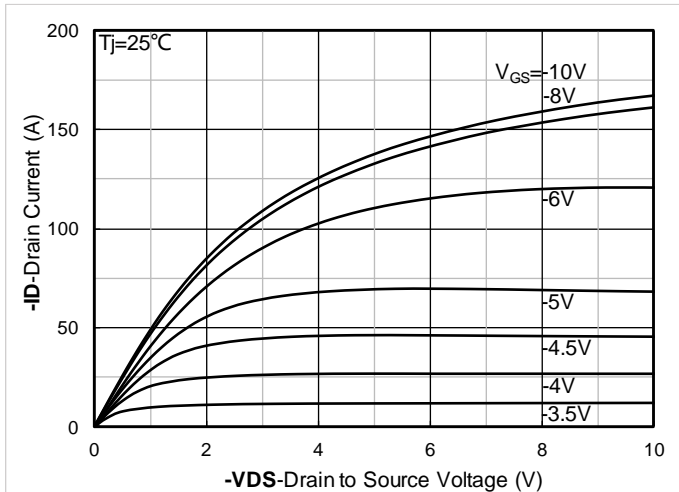


Figure 1. Output Characteristics; typical values

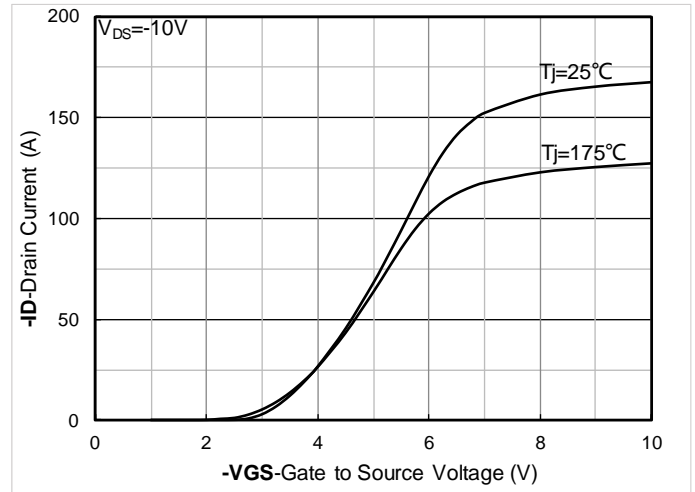


Figure 2. Transfer Characteristics; typical values

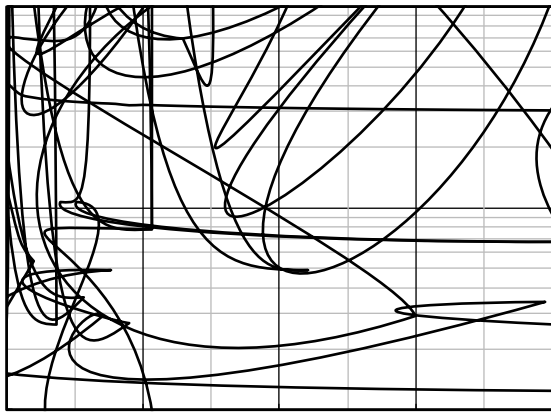


Figure 3. Capacitance Characteristics; typical values

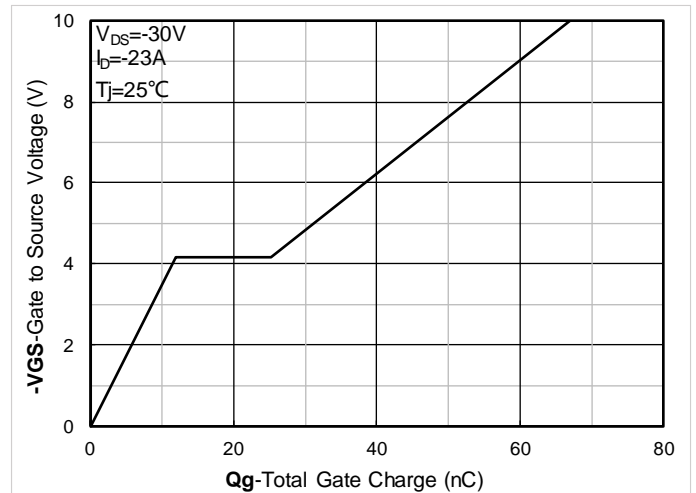


Figure 4. Gate Charge; typical values

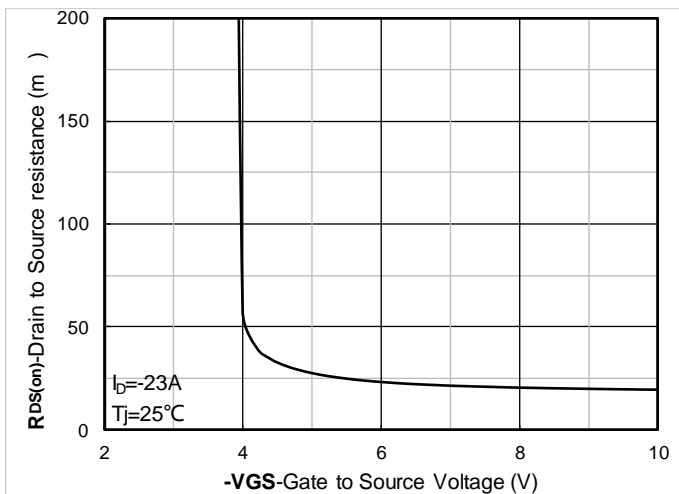


Figure 5. On-Resistance vs. Gate to Source Voltage; typical values

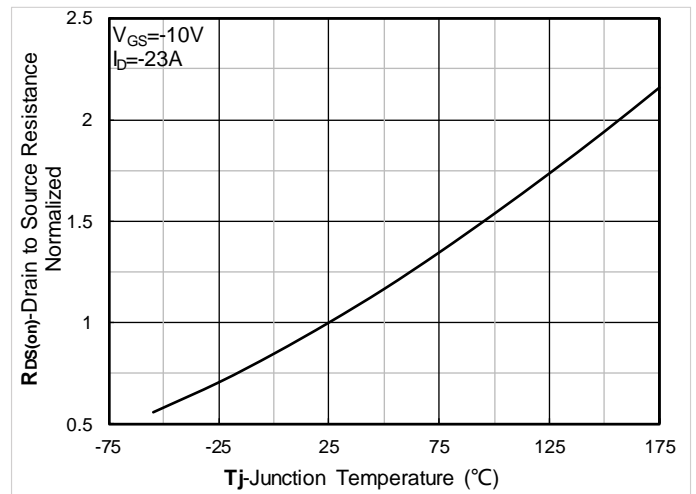


Figure 6. Normalized On-Resistance



# YJG027P06AKHQ

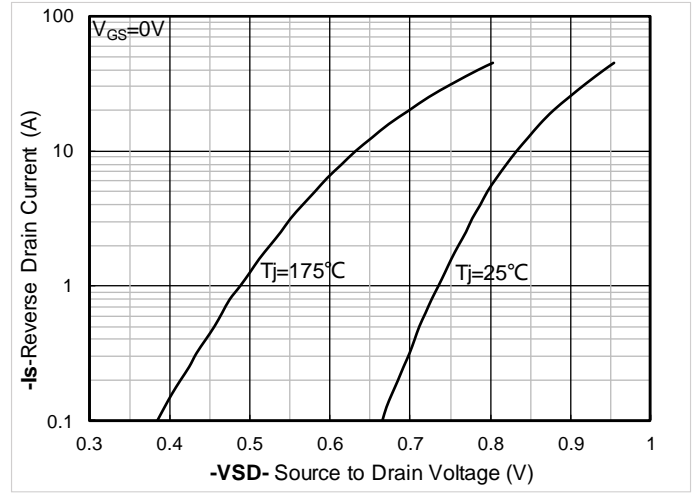
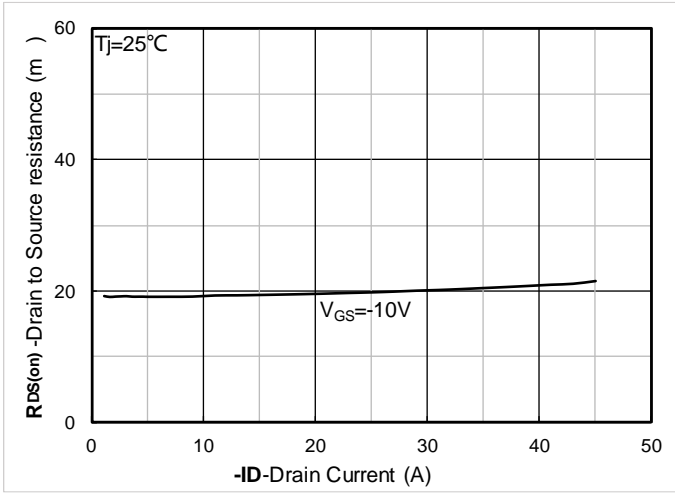


Figure 7. RD

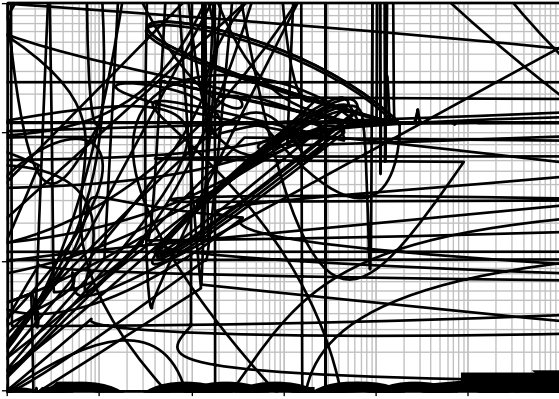


Figure 13. Maximum Transient Thermal Impedance

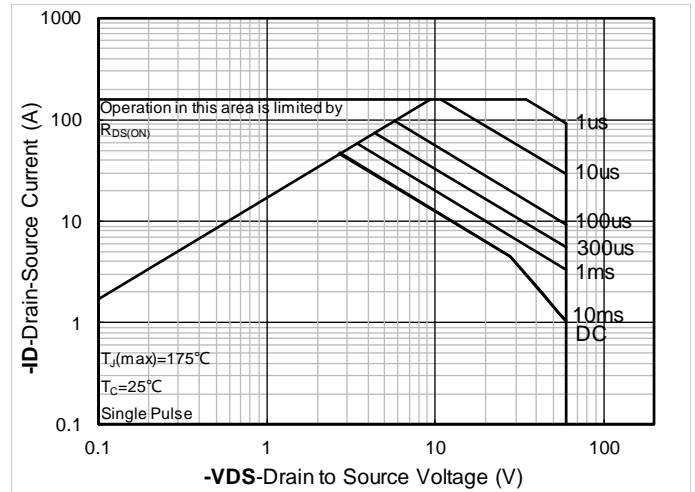
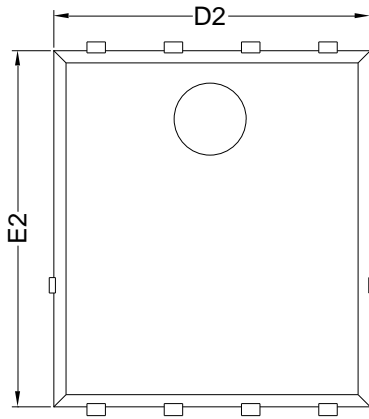


Figure 14. Safe Operation Area

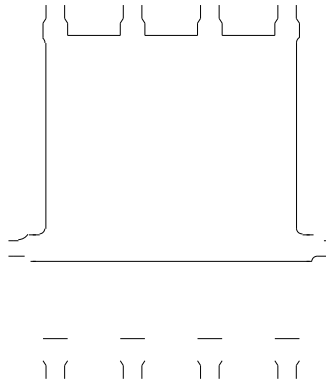


# YJG027P06AKHQ

## 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:  $\pm 0.10$ mm.
3. The pad layout is for reference purposes only.



# YJG027P06AKHQ

## Marking Information



### Note

1. All marking is at middle of the product body
2. All marking is in laser printing
3. YJG027P06AK is marking code, YYWW is date code, "YY" is year, "WW" is week
4. Body color: Black



# YJG027P06AKHQ

## Disclaimer

The information presented in this document is for reference only. YangU6(d)-3( )-108(i)-4(n)-3( )-108(th)-5(i)-4(s)-6( )-108(d)-3(o)-3(c)7( )-1