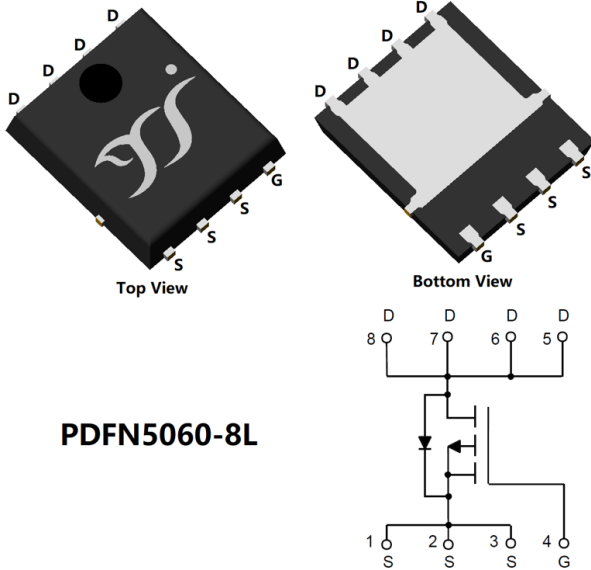


P-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	-40 V
I_D	-60 A
$R_{DS(ON)}$ (at $V_{GS}=-10V$)	<7.5 m
$R_{DS(ON)}$ (at $V_{GS}=-4.5V$)	<10.5 m
100% EAS Tested	
100% ∇V_{DS} Tested	

General Description

Split gate trench MOSFET technology
 Low $R_{DS(on)}$ & FOM
 Excellent stability and uniformity
 Moisture Sensitivity Level 1
 2 : RRa B9 & C-0 Flammability Rating
 5alogen Free

Applications

= R ZN NTRZ R a
 = aNORR VZR a

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	-40	V
Gate-source Voltage		V_{GS}	± 25	V
Drain Current	$T_A=25^\circ C$	I_D	-14	A
	$T_A=100^\circ C$		-9	
	$T_C=25^\circ C$		-60	
	$T_C=100^\circ C$		-38	
Pulsed Drain Current ^A		I_{DM}	-240	A
Avalanche energy ^B		EAS	400	mJ
Total Power Dissipation ^C	$T_A=25^\circ C$	P_D	2.5	W
	$T_A=100^\circ C$		1	
	$T_C=25^\circ C$		83	
	$T_C=100^\circ C$		33	
Junction and Storage Temperature Range		T_J, T_{STG}	-55~+150	$^\circ C$

Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient ^D	Steady-State	$R_{\theta J}$	40	50	$^\circ C/W$
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	1.2	1.5	

Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG60P04A	F1	YJG60P04A	5000	10000	100000	13 reel



YJG60P04A

Electrical Characteristics ($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-$	-40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-40V, V_{GS}=0V$	-	-	-1	.
		$V_{DS}=-40V, V_{GS}=0V, T_J=150^{\circ}\text{C}$	-	-	-100	
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 25V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-$	-1.2	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-30A$	-	5.5	7.5	Z
		$V_{GS}=-10V, I_D=-20A$	-	5.5	7.5	
		$V_{GS}=-4.5V, I_D=-20A$	-	7.5	10.5	
Diode Forward Voltage	V_{SD}	$I_S=-30A, V_{GS}=0V$	-	-0.85	-1.2	V
Gate resistance	R_G	$f=1\text{MHz}$	-	15	-	
Maximum Body-Diode Continuous Current	I_S		-	-	-60	A
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=-20V, V_{GS}=0V, f=1\text{MHz}$	-	4600	-	pF
Output Capacitance	C_{oss}		-	490	-	
Reverse Transfer Capacitance	C_{rss}		-	470	-	

Switching Parameters



Typical Electrical and Thermal Characteristics Diagrams

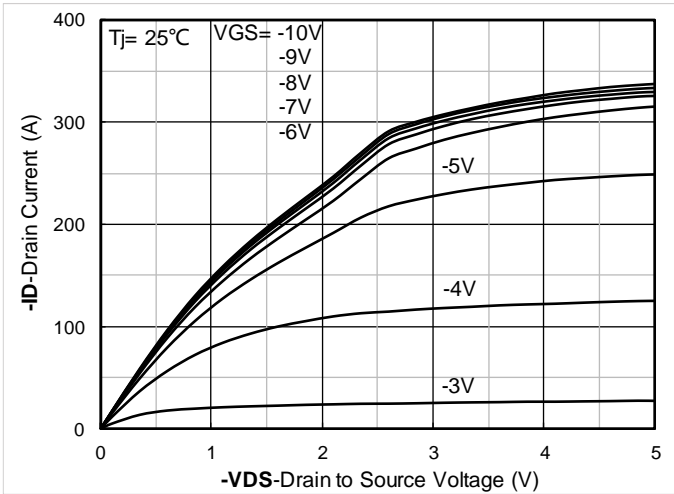


Figure 1. Output Characteristics

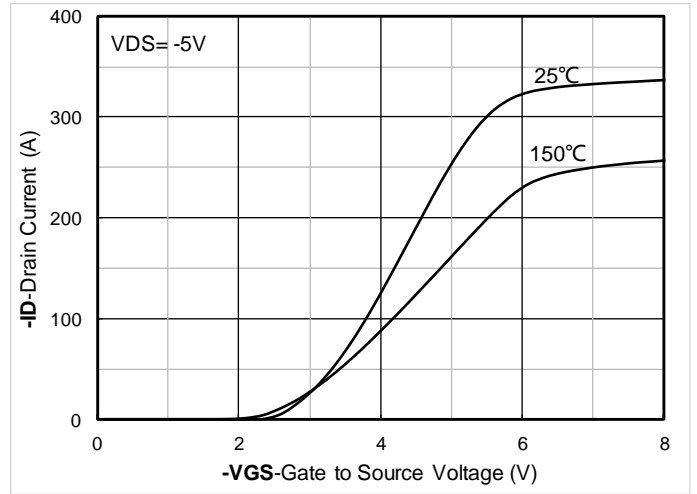


Figure 2. Transfer Characteristics

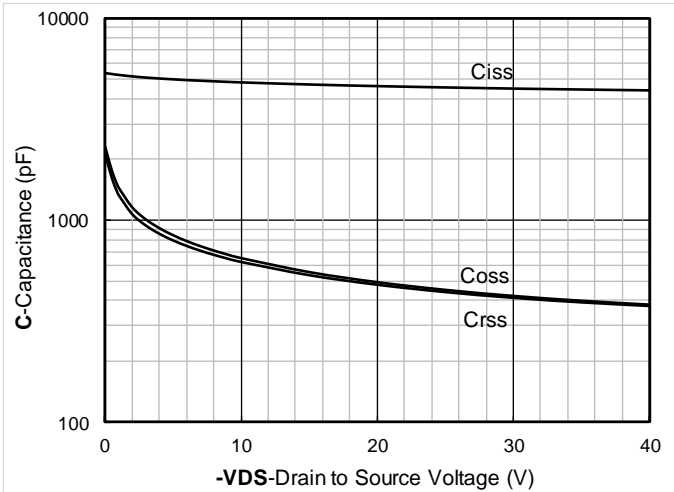


Figure 3. Capacitance Characteristics

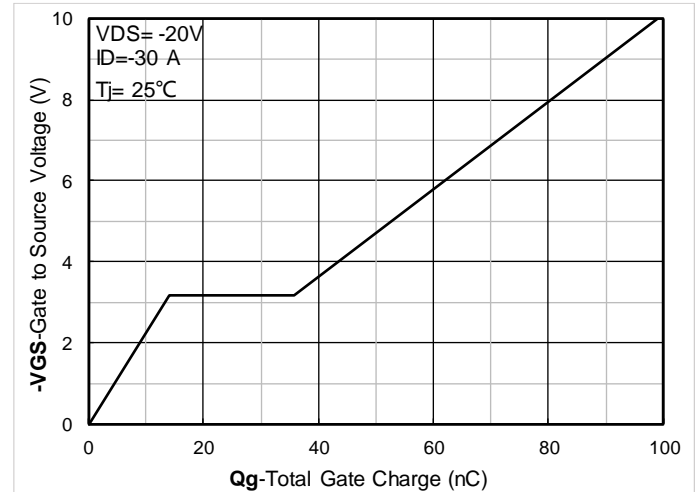


Figure 4. Gate Charge

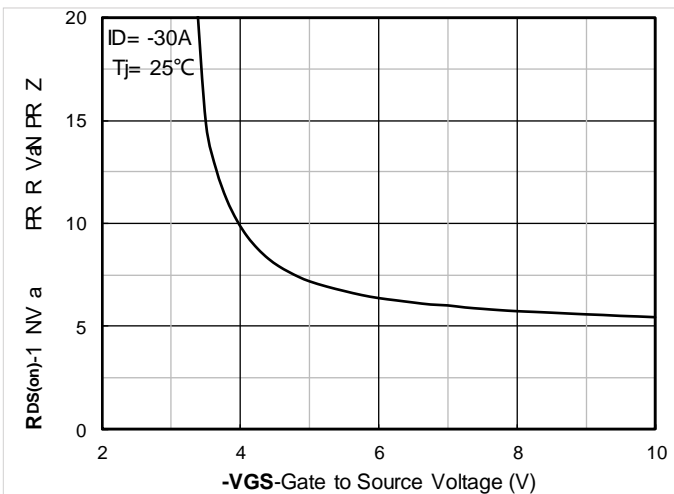


Figure 5. On-Resistance vs Gate to Source Voltage

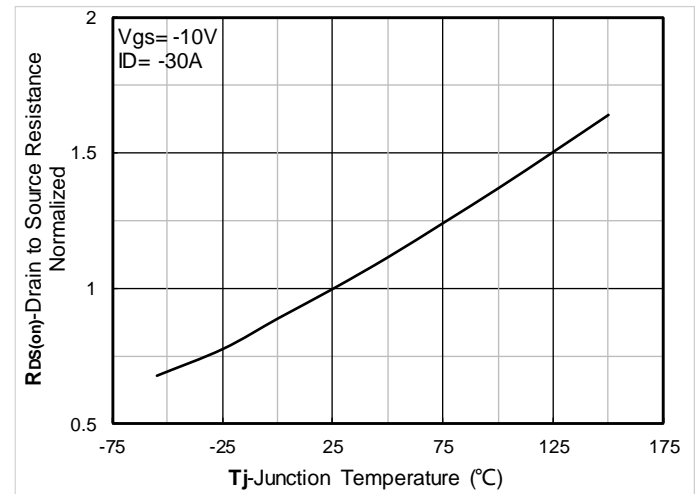


Figure 6. Normalized On-Resistance



YJG60P04A

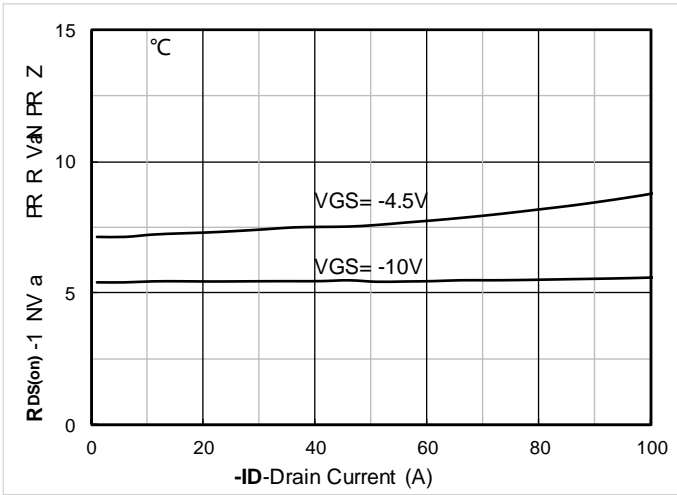


Figure 7. RDS(on) VS Drain Current

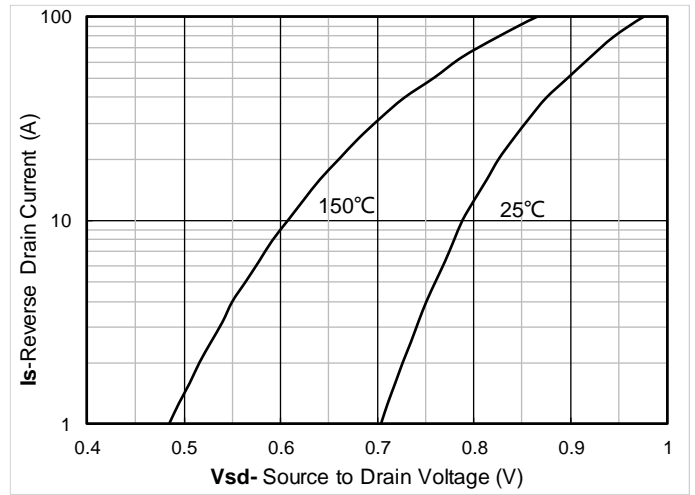


Figure 8. Forward characteristics of reverse diode

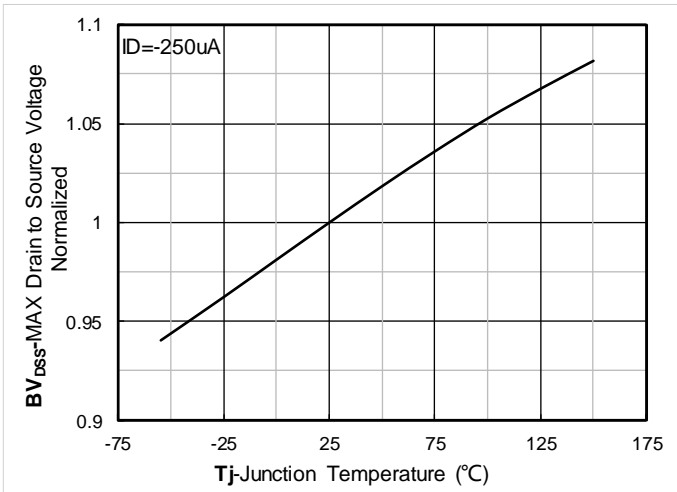


Figure 9. Normalized breakdown voltage

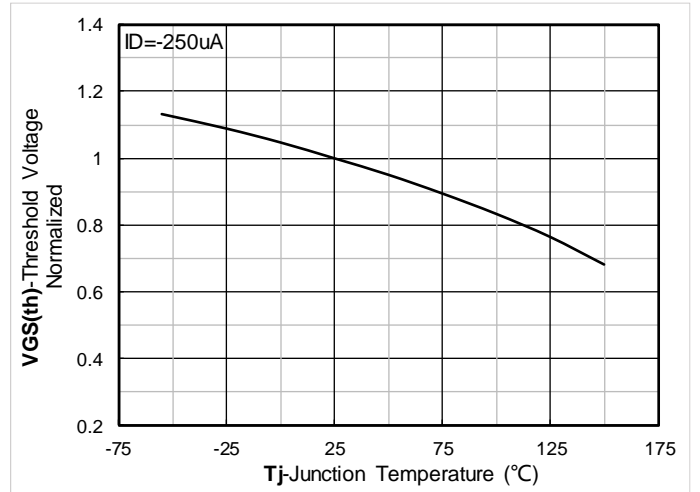


Figure 10. Normalized Threshold voltage

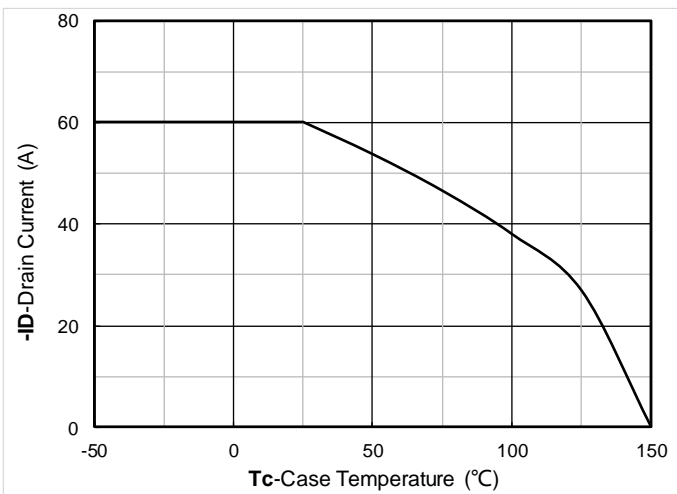


Figure 11. Current dissipation

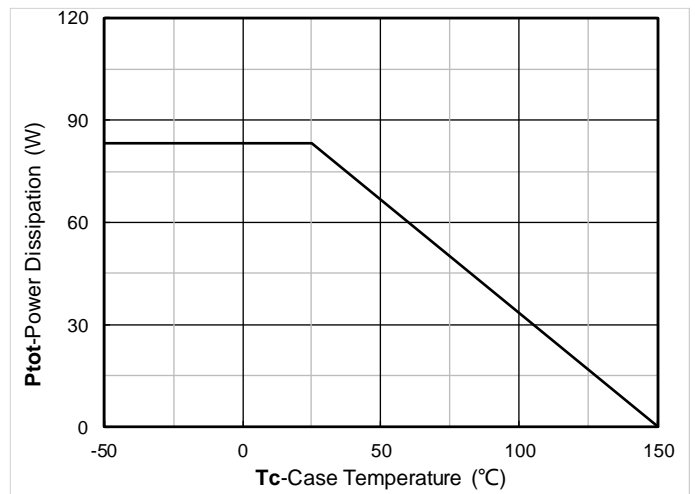


Figure 12. Power dissipation



YJG60P04A

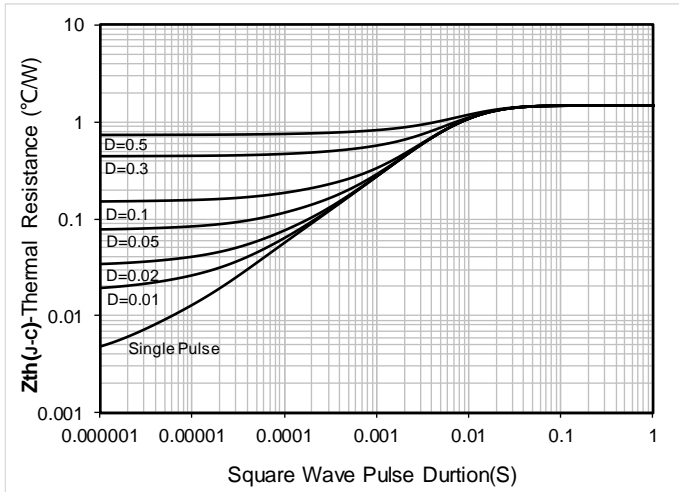


Figure 13. Maximum Transient Thermal Impedance

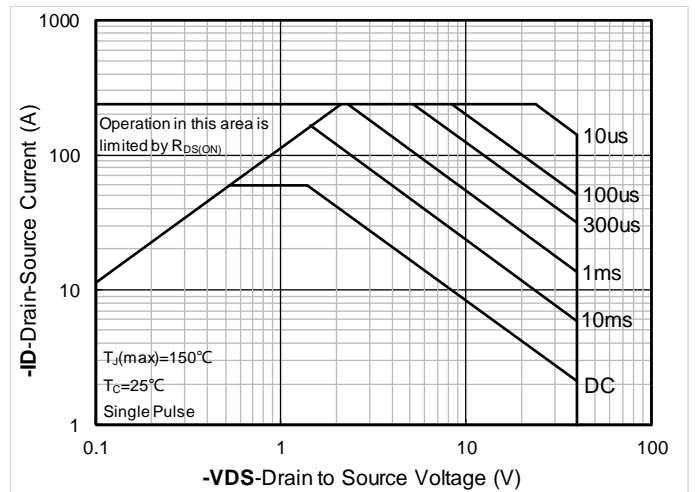
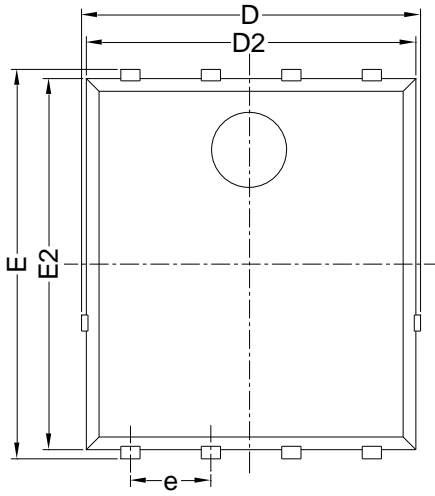


Figure 14. Safe Operation Area

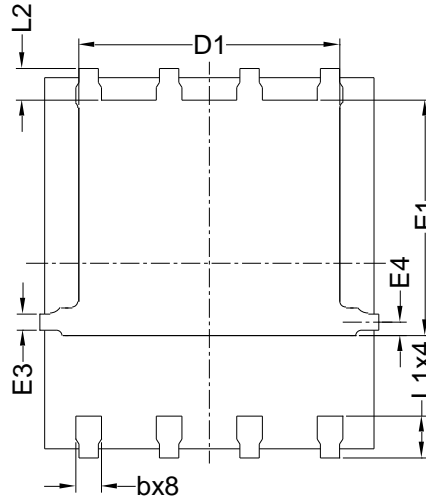


YJG60P04A

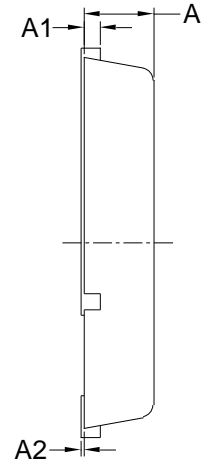
PDFN5060-8L-B-1.1MM Package information



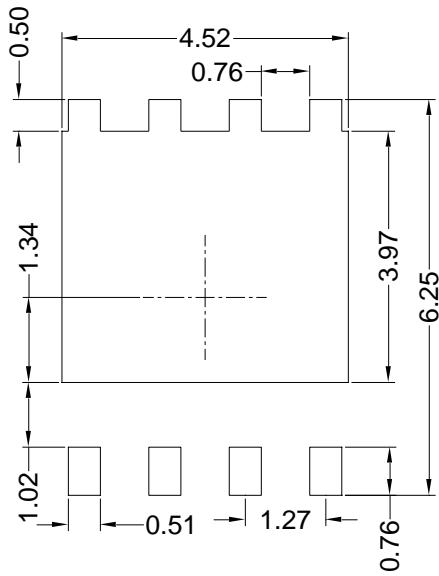
Top View
正面视图



Bottom View
背面视图



Side View
侧面视图



Suggested Solder Pad Layout
Top 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.



YJG60P04A

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

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 which 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.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.21yangjie.com>

P 4 R N R aFN TWR NR S PRS S dR N VaN PR