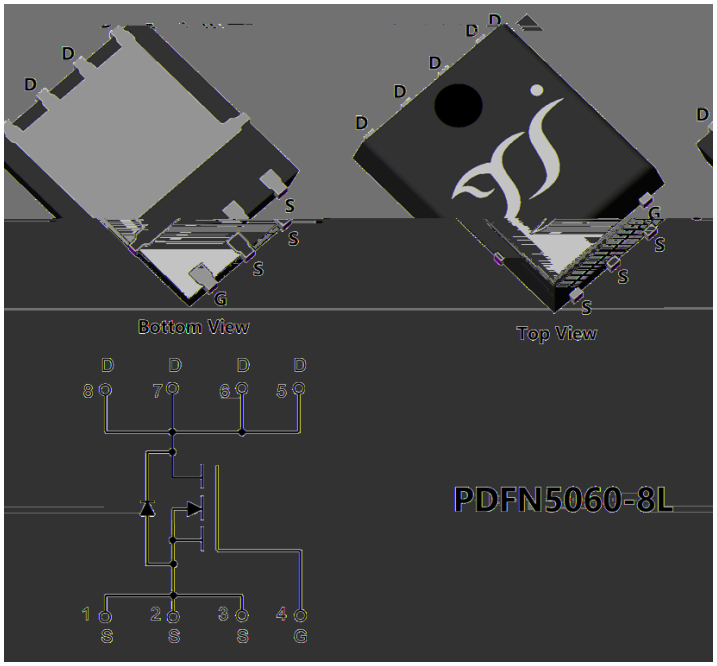
RoHS
COMPLIANT



- V_{DS} 40V
- I_D 80A
- $R_{DS(ON)}$(at V_{GS}=10V) 4.5mΩ
- 100% EAS Tested
- 100% V_{DS} Tested

- 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

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- 12V Automotive systems

■ (T_A=25 unless otherwise noted)

Drain-source Voltage		V_{DS}	40	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_A=25	I_D	17	A
	T_A=100		12	
	T_C=25		80	
	T_C =100		65	
Pulsed Drain Current [A]		I_{DM}	300	A
Avalanche energy [B]		EAS	56	mJ
Total Power Dissipation [C]	T_A=25	P_D	2.5	W
	T_A=100		1.25	
	T_C=25		68	
	T_C =100		34	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +175	

■

Thermal Resistance Junction-to-Ambient [D]	Steady-State	$R_{\theta JA}$	50	60	/W
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	1.8	2.2 Ő Z	∃ Ő ∃ Y1 Ã η ł 2■.2

			PAC K AGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG4D5G04HQ	F1	YJG4D5G04H	5000	10000	100000	13" reel

=25 unless otherwise noted)

BV_{DSS}	V_{GS}= 0V, I_D=1mA	40	-	-	V
I_{DSS}	V_{DS}=40V, V_{GS}=0V	-	-	1	μA
I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	2	3	4	V
$R_{DS(ON)}$	V_{GS}=10V, I_D=20A	-	3.5	4.5	mΩ
V_{SD}	I_S=20A, V_{GS}=0V	-	0.8	1.2	V
R_G	f=1MHz	-	1.5	-	Ω
I_S		-	-	90	A
C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz	-	860	-	pF
C_{oss}		-	420	-	
C_{rss}		-	22	-	
Q_{gs}	V_{GS}=10V, V_{DS}=20V, I_D=35A	-	5.4	-	nC
Q_{gd}		-	5.1	-	
Q_{rr}	I_F=35A, di/dt=130A/us	-	13.2	-	nC
t_{rr}					

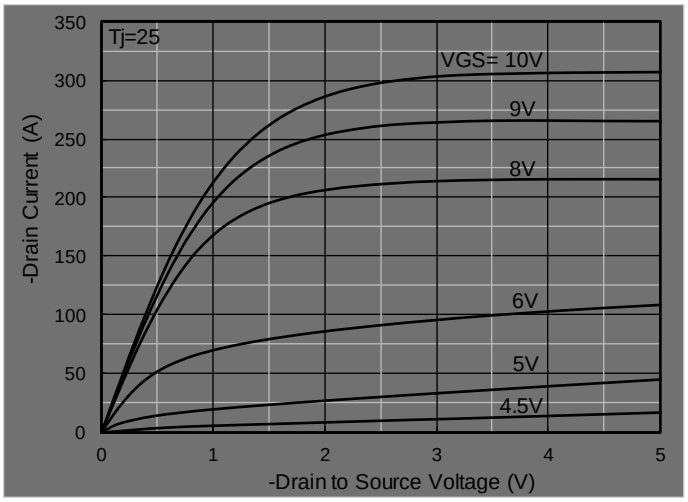


Figure 1. Output Characteristics

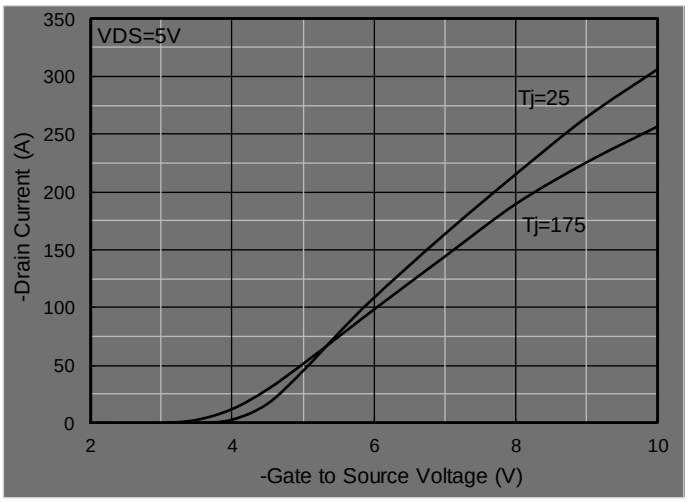


Figure 2. Transfer Characteristics

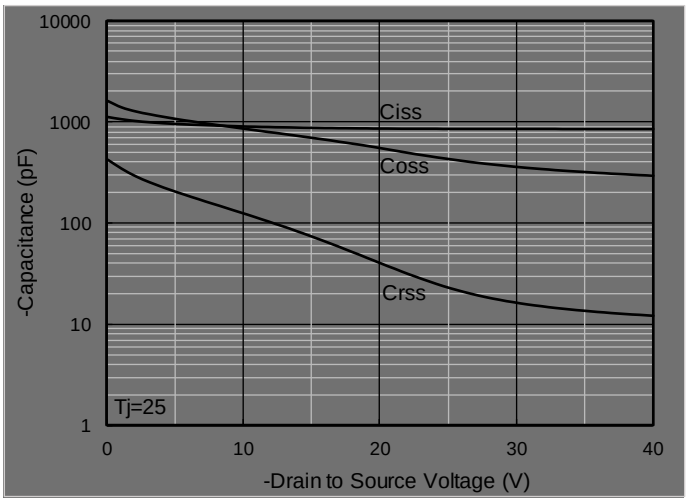


Figure 3. Capacitance Characteristics

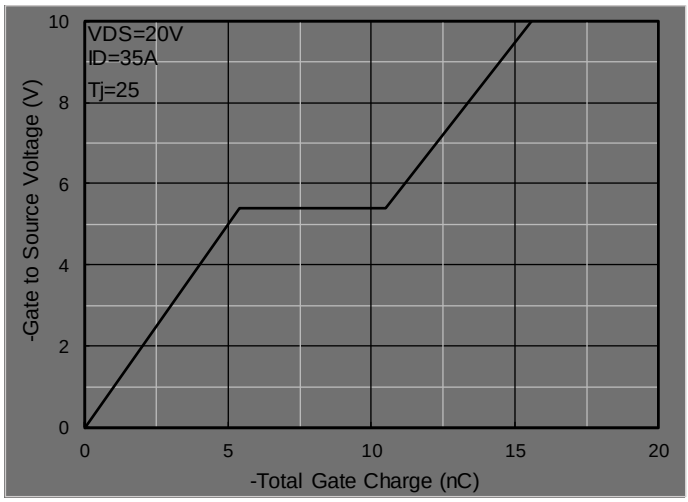


Figure 4. Gate Charge

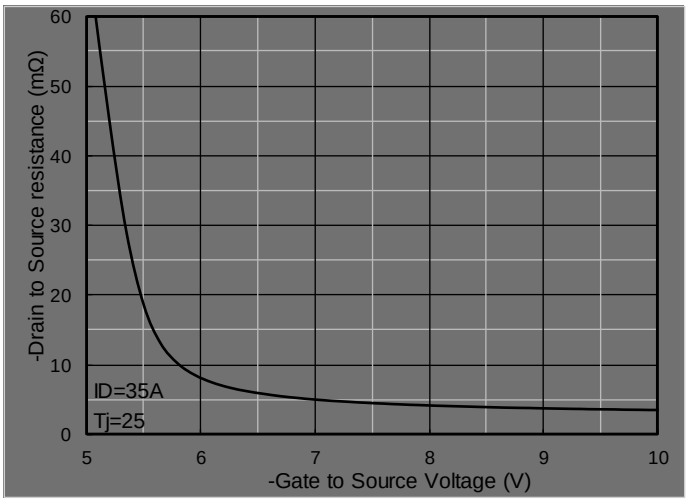


Figure 5. On-Resistance vs Gate to Source Voltage

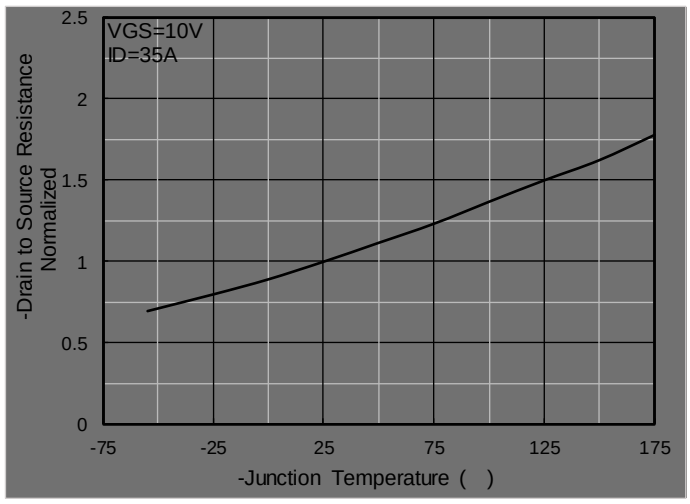
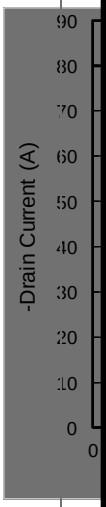


Figure 6. Normalized On-Resistance




-Drain Current (A)
90
80
70
60
50
40
30
20
10
0
0

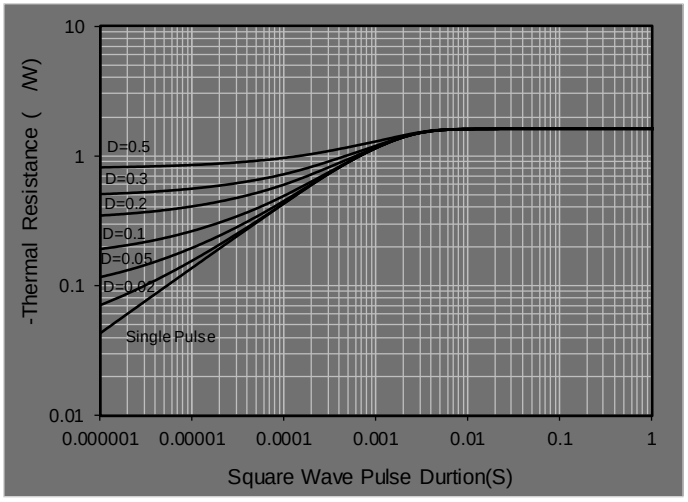


Figure 13. Maximum Transient Thermal Impedance

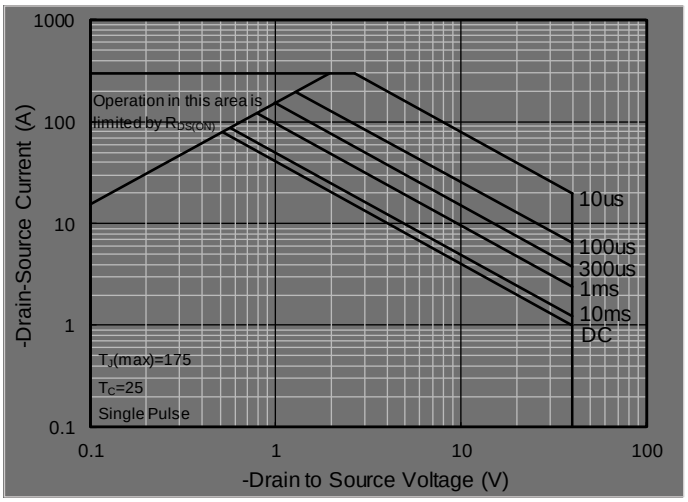
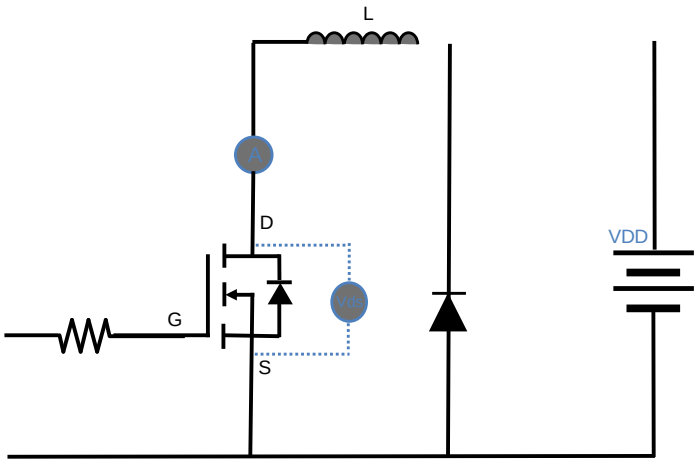


Figure 14. Safe Operation Area

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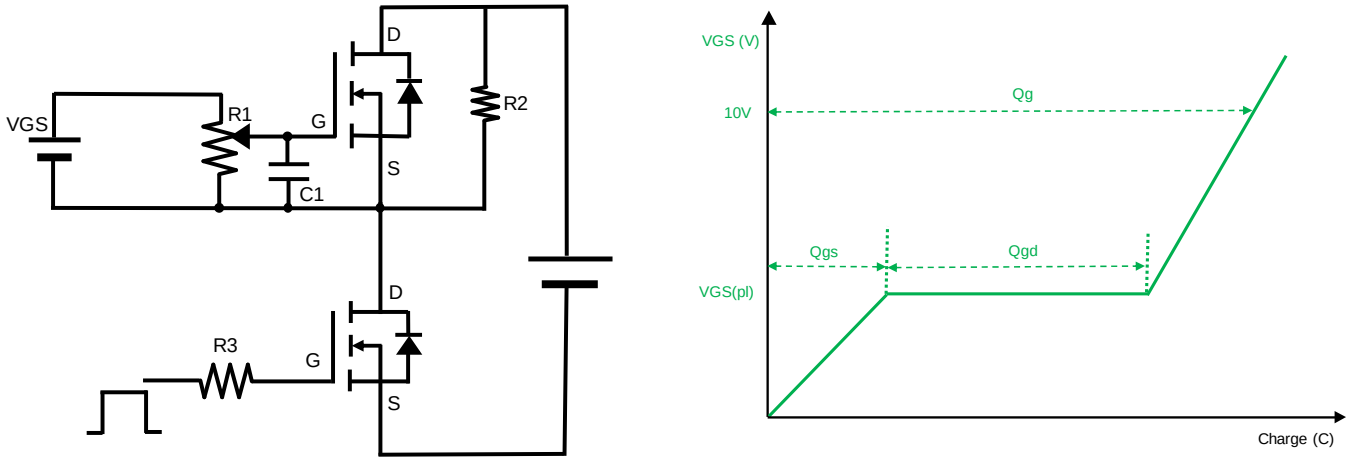


Figure B. Gate Charge Test Circuit & Waveform

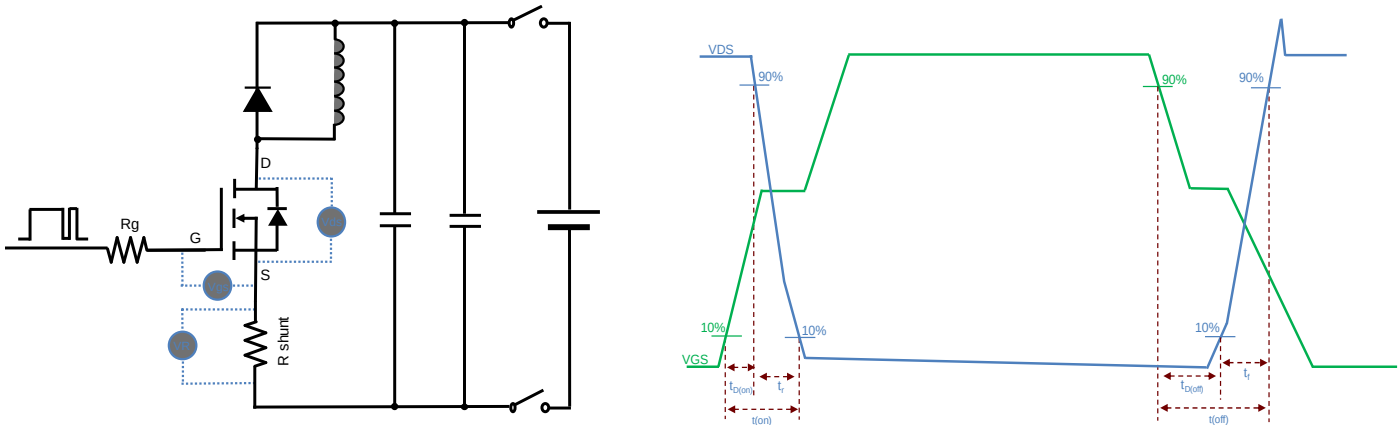


Figure C. Resistive Switching Test Circuit & Waveform

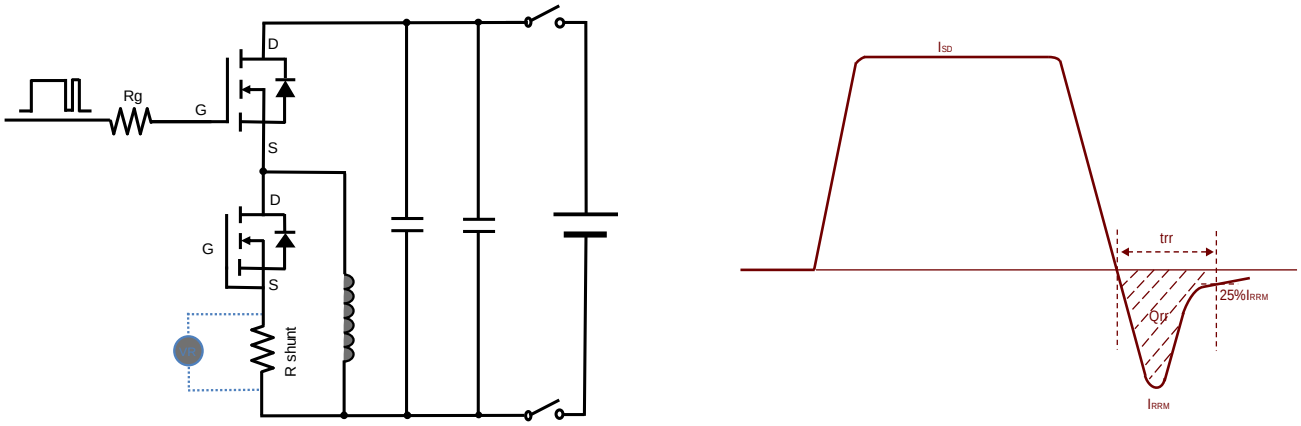
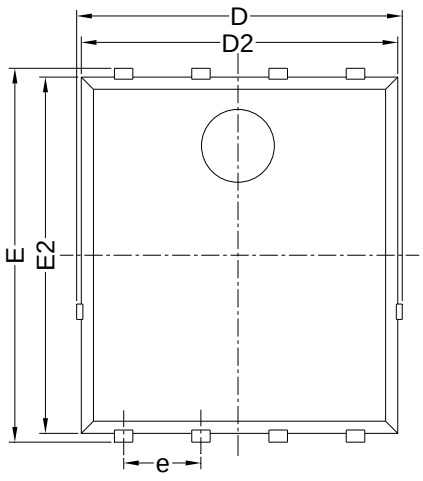
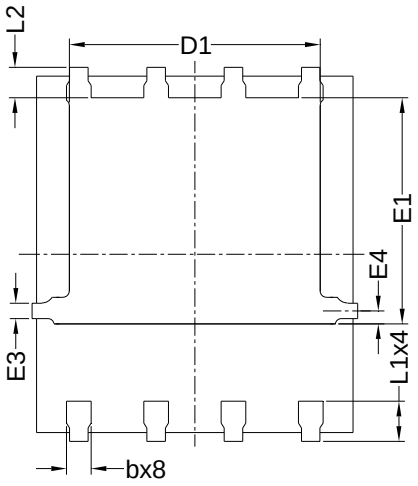


Figure D. Diode Recovery Test Circuit & Waveform

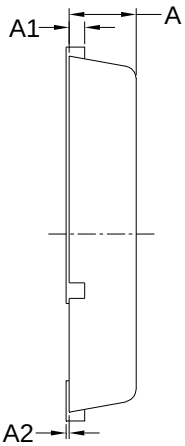
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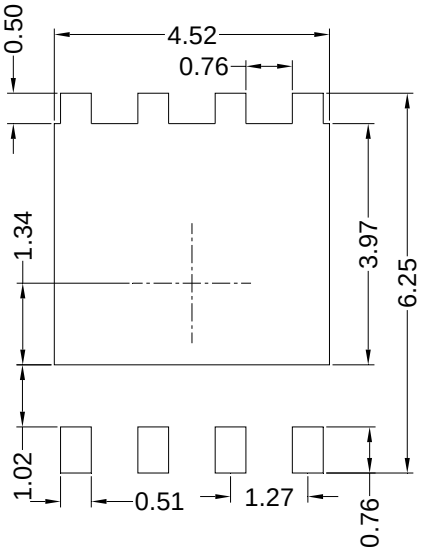
Top View



Bottom View



Side View



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:±0.10mm.
3.The pad layout is for reference purposes only.

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