

Single P-channel MOSFET

KFJ4B01110L Data Sheet

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1. GENERAL DESCRIPTION

Single P-channel MOSFET
For load swiching circuits

2. FEATURES

- Drain-source ON resistance: Rds(on) typ. = 141 mΩ (VGS = -2.5 V)
- CSP (Chip Size Package)
- RoHS compliant (EU RoHS / MSL: Level 1 compliant)

3. MARKING SYMBOL: 1E

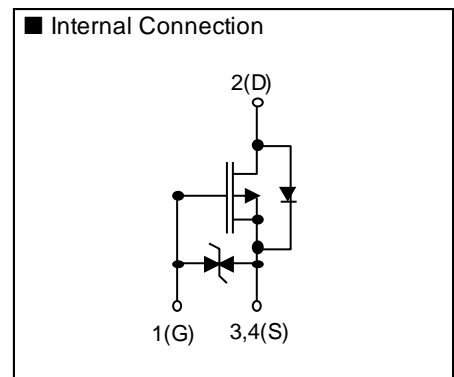
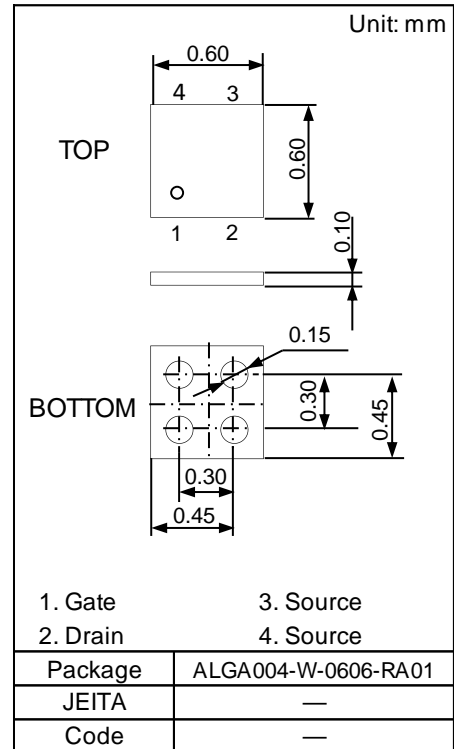
4. PACKAGING

Embossed type (Thermo-compression sealing): 20,000 pcs / reel (standard)

5. ABSOLUTE MAXIMUM RATINGS Ta = 25 °C

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	VDS	-12	V
Gate-Source Voltage	VGS	±8	V
Drain Current	ID1 ^{*1}	-1.4	A
	ID2 ^{*2}	-2.2	
	ID3 ^{*3}	-2.6	
Peak Drain Current	IDp1 ^{*1*4}	-11	A
	IDp2 ^{*2*4}	-17	
	IDp3 ^{*3*4}	-20	
Power Dissipation	PD1 ^{*1}	0.34	W
	PD2 ^{*2}	0.76	
	PD3 ^{*3}	1.1	
Channel Temperature	Tch	150	°C
Operating Ambient Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-55 to +150	°C

- Note *1 FR4 board (25.4 mm x 25.4 mm x t1.0 mm), Min Cu 36mm² Copper
 *2 FR4 board (25.4 mm x 25.4 mm x t1.0 mm), Full Cu.
 *3 Ceramic substrate (70 mm x 70 mm x t1.0 mm).
 *4 t = 10 μs, Duty Cycle ≤ 1 %



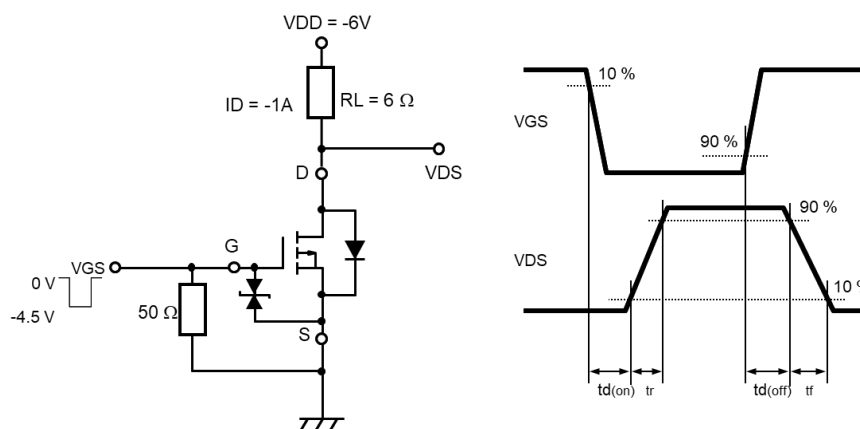
6. ELECTRICAL CHARACTERISTICS Ta = 25 °C ± 3 °C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	VDSS	ID = -1 mA, VGS = 0	-12			V
Zero Gate Voltage Drain Current	IDSS	VDS = -12 V, VGS = 0			-10	μA
Gate-Source Leakage Current	IGSS	VGS = ±8 V, VDS = 0 V			±10	μA
Gate Threshold Voltage	Vth	ID = -0.598 mA, VDS = -10 V	-0.3		-1.0	V
Drain-Source ON Resistance	RDS(on)	ID = -0.7 A, VGS = -4.5 V		118	153	mΩ
		ID = -0.7 A, VGS = -2.5 V		141	183	
		ID = -0.2 A, VGS = -1.8 V		169	287	
		ID = -0.1 A, VGS = -1.5 V		199	597	
Input Capacitance *1	Ciss	VDS = -10 V		226		pF
Output Capacitance *1	Coss	VGS = 0 V		62		
Reverse Transfer Capacitance *1	Crss	f = 1MHz		51		
Turn-on delay time *1,*2	td(on)	VDD = -6 V, VGS = 0 to -4.5 V		3.8		ns
Rise time *1,*2	tr	ID = -1.0 A		2.5		
Turn-off delay time *1,*2	td(off)	VDD = -6 V, VGS = -4.5 to 0 V		30		
Fall time *1,*2	tf	ID = -1.0 A		5.4		
Total Gate Charge *1	Qg	VDD = -6 V		3.3		nC
Gate to Source Charge *1	Qgs	VGS = 0 to -4.5 V		0.55		
Gate to Drain Miller Charge *1	Qgd	ID = -1.0 A		0.65		
Body Diode Forward Voltage	VF(D-S)	IF = -0.2 A, VGS = 0 V		-0.7	-1.2	V

Note Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

*1 Guaranteed by design, not subject to production testing

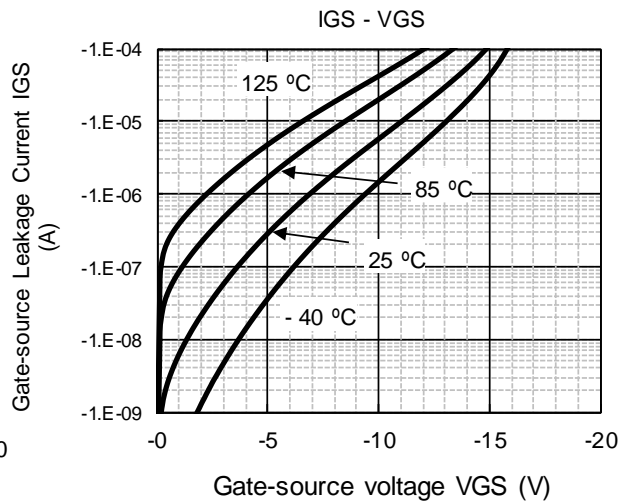
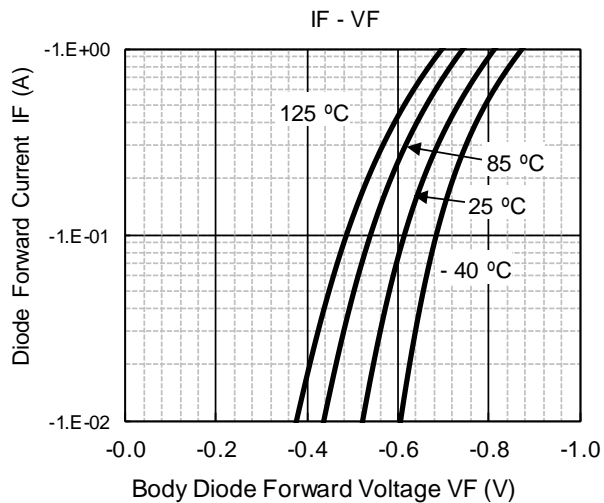
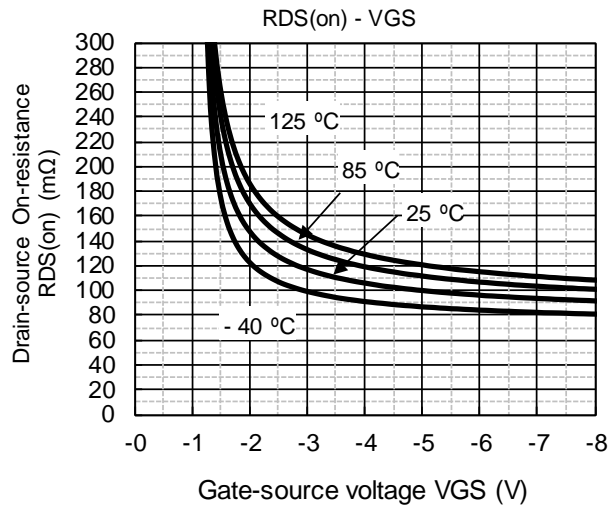
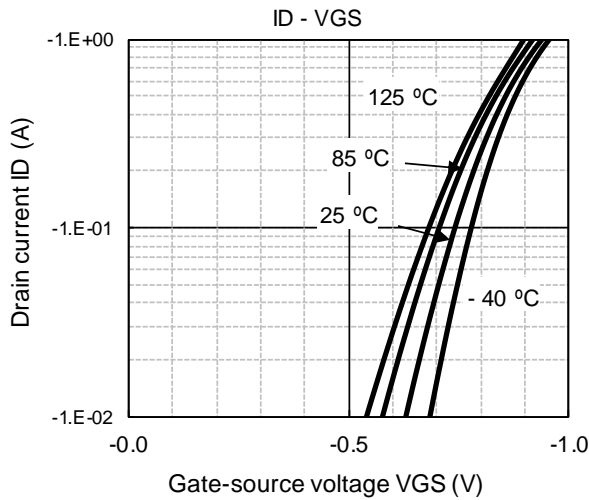
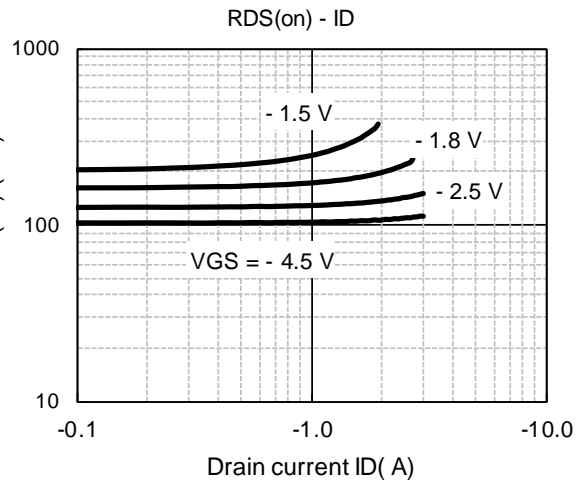
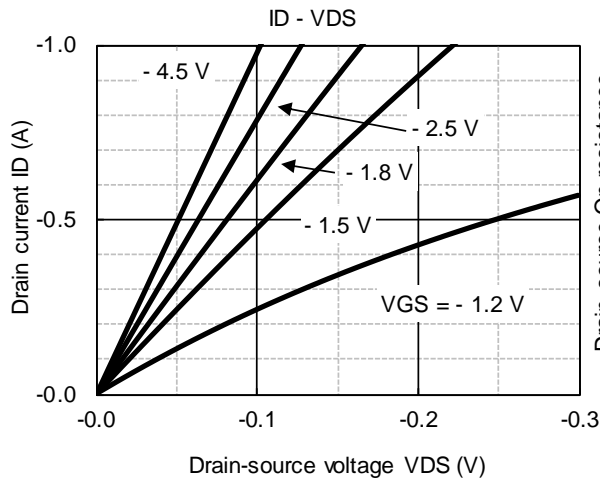
*2 Measurement circuit for Turn-on delay time / Rise time / Turn-off delay time / Fall time



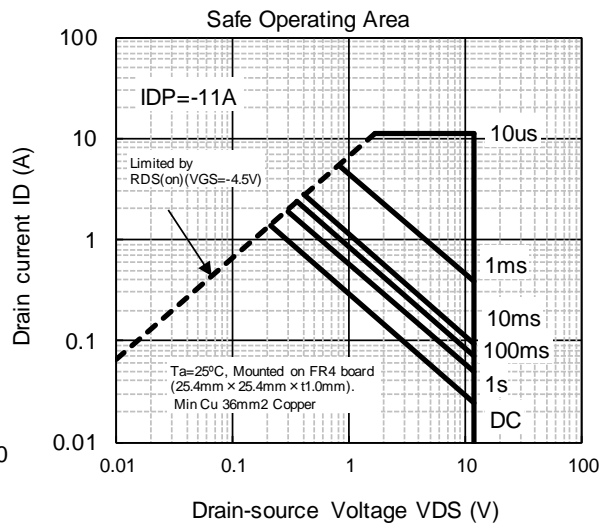
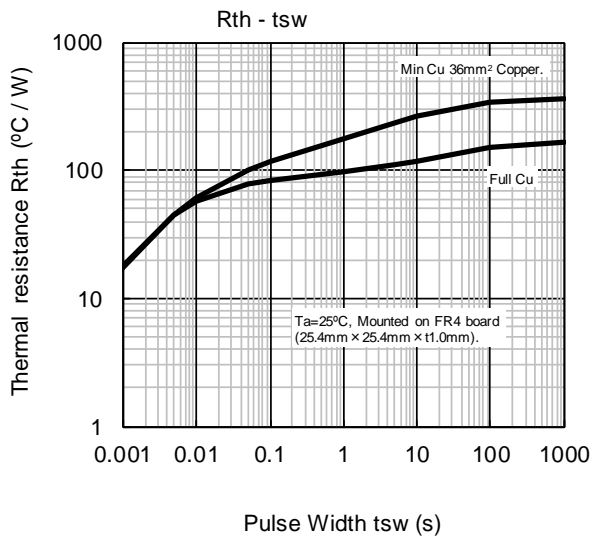
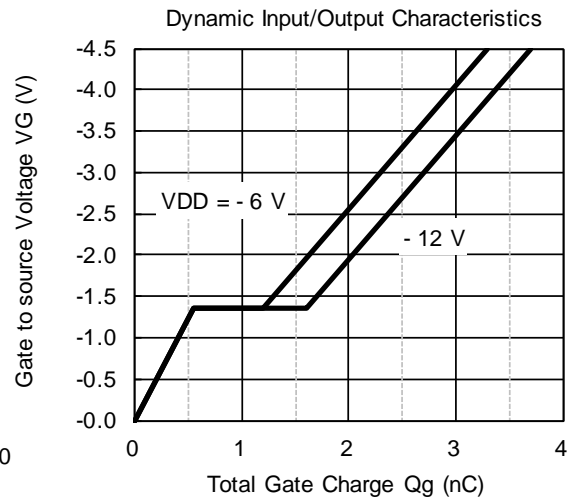
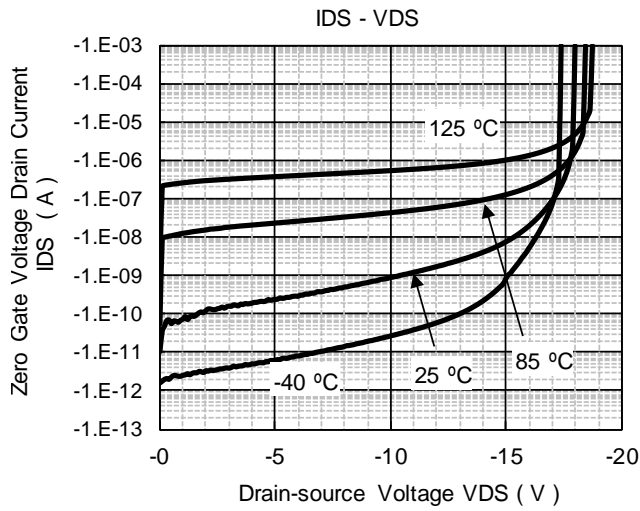
7. ELECTRICAL STATE DISCHARGE CHARACTERISTICS

Standard	Test Type	Symbol	Conditions	Class	Value	Unit
AEC-Q101-001	Human Body Model	HBM	C = 100 pF, R = 1.5 kΩ	H1B	> 500 to ≤ 1k	V
	Machine Model	MM	C = 200 pF, R = 0 Ω	M1B	> 50 to ≤ 100	V

8. TECHNICAL DATA (Reference)

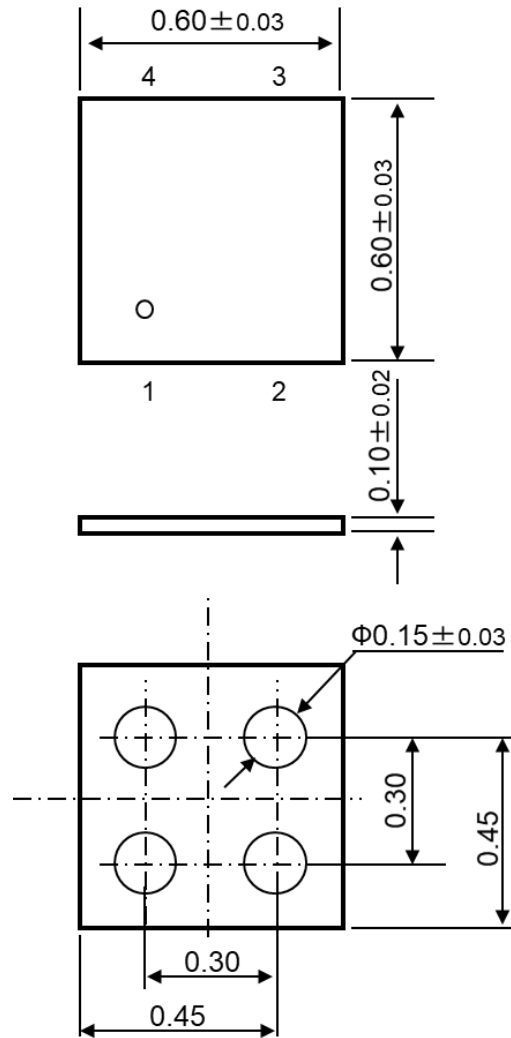


TECHNICAL DATA (Reference)



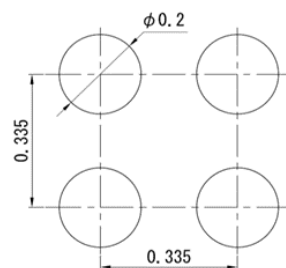
9. OUTLINE

Unit : mm



10. LAND PATTERN (Reference)

Unit : mm



11. REVISION HISTORY

Date	Revision	Description
2021.2.5	1.00	1. initially issued.

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