

General Description

Battery Packs and Battery-powered portable equipment applications.
It's mainly suitable for use as a load switch in battery powered applications and protection in battery packs.

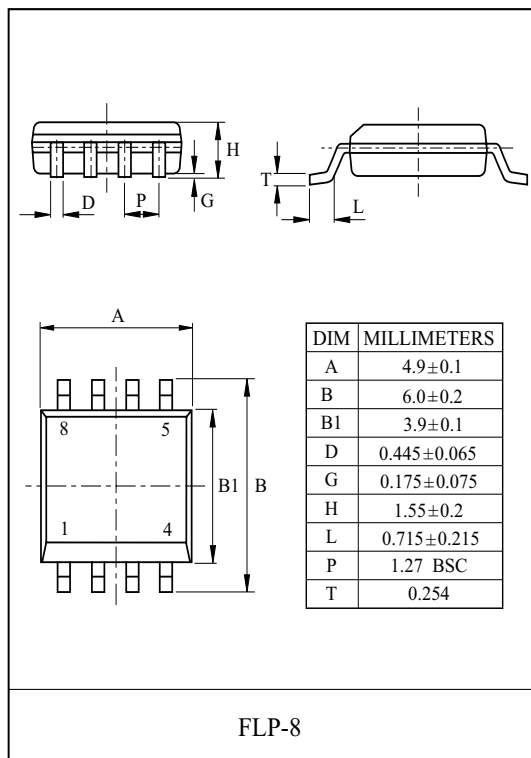
FEATURES

- $V_{DS} = -20V$, $I_D = -5.8A$.
- Drain-Source ON Resistance.
- $R_{DS(ON)} = 36m\Omega$ (Max.) @ $V_{GS} = -4.5V$.
- $R_{DS(ON)} = 62m\Omega$ (Max.) @ $V_{GS} = -2.5V$.

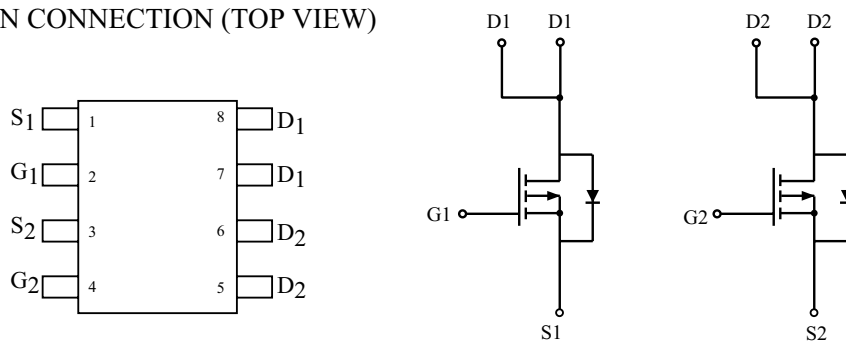
MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	± 12	V
Drain Current	DC	I_D^*	-5.8	A
	Pulsed (Note2)	I_{DP}	-24	
Drain Power Dissipation	Ta=25 °C	P_D^*	2.0	W
	Ta=100 °C		0.8	
Maximum Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C
Thermal Resistance, Junction to Ambient		R_{thJA}^*	62.5	°C/W

* : Surface Mounted on 1" × 1" Board, t ≤ 10sec.



PIN CONNECTION (TOP VIEW)



KMA5D8DP20Q

ELECTRICAL CHARACTERISTICS (Ta=25℃)

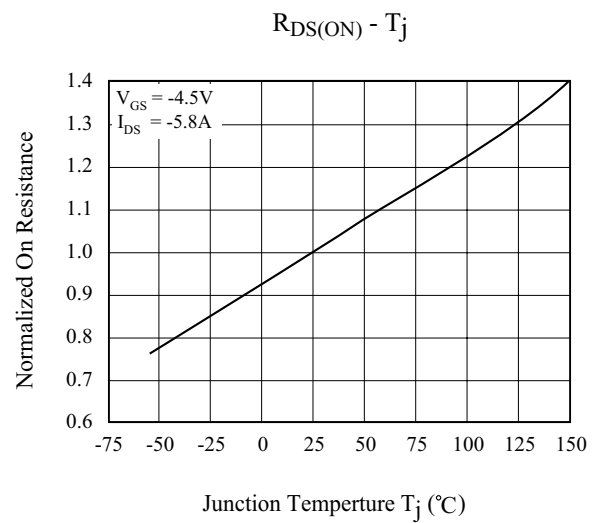
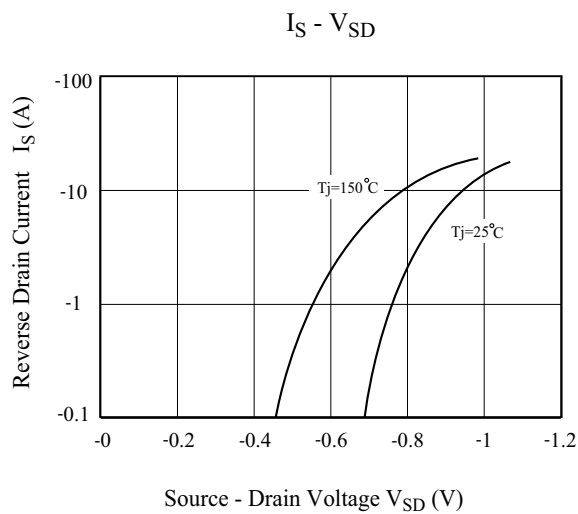
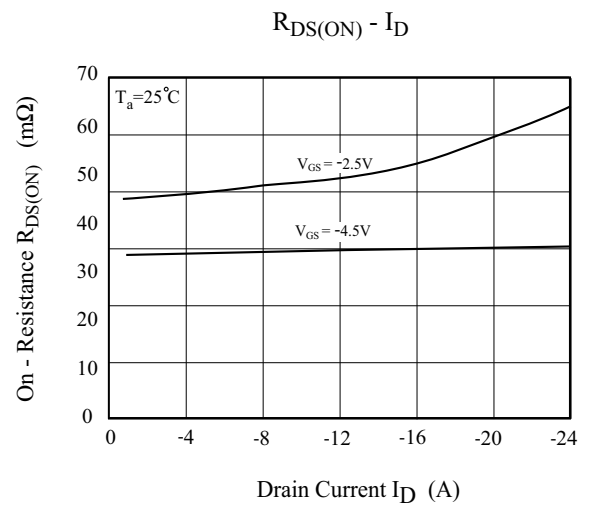
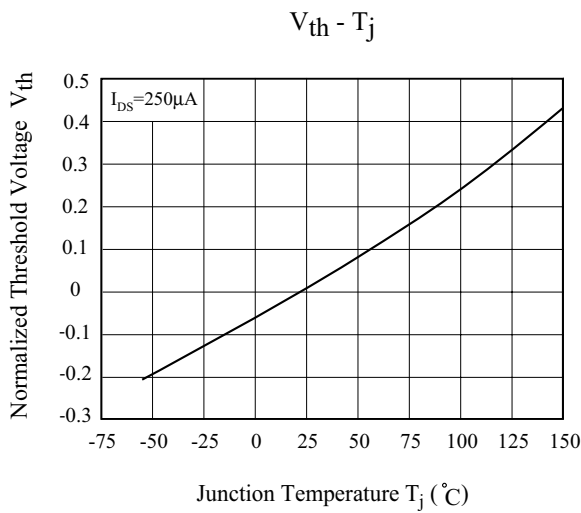
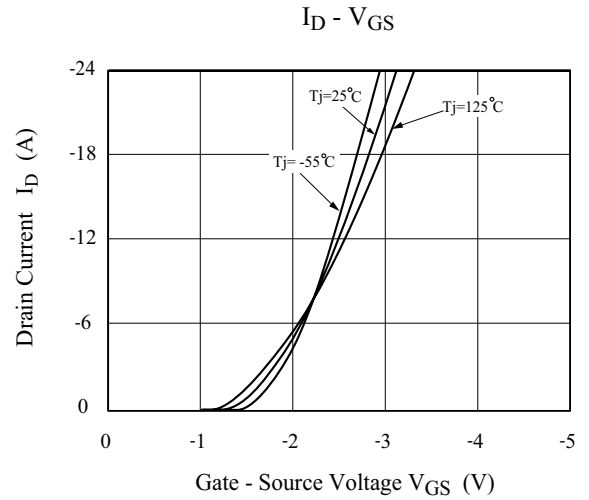
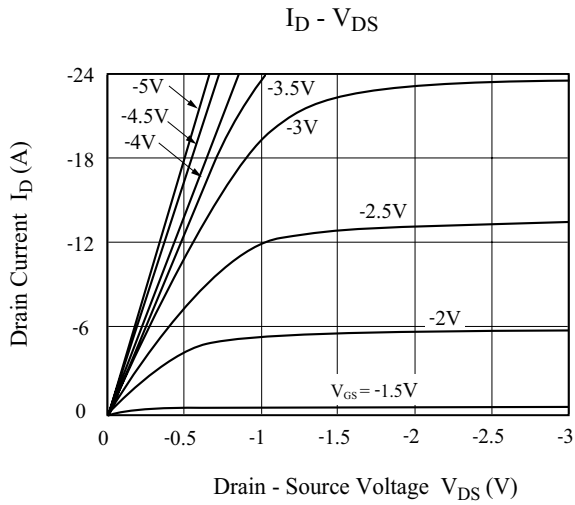
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA, V _{GS} =0V,	-20	-	-	V
Drain Cut-off Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V,	-	-	-1	μA
Gate Threshold Voltage	V _{th}	V _{DS} =V _{GS} , I _D =-250μA	-0.6	-	-	V
Gate Leakage Current	I _{GSS}	V _{GS} = ± 12V, V _{DS} =0V	-	-	± 100	nA
Drain-Source ON Resistance	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-5.8A (Note 2)	-	29	36	m Ω
		V _{GS} =-2.5V, I _D =-4.4A (Note 2)	-	49	62	
Dynamic (Note 3)						
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-5.8A V _{GS} =-4.5V (Fig.1)	-	14	-	nC
Gate-Source Charge	Q _{gs}		-	2.3	-	
Gate-Drain Charge	Q _{gd}		-	5.5	-	
Turn-on Delay time	t _{d(on)}	V _{DD} =-10V, R _L =1.69 Ω, R _G =6 Ω (Fig.2)	-	10	-	ns
Turn-on Rise time	t _r		-	37	-	
Turn-off Delay time	t _{d(off)}		-	36	-	
Turn-off Fall time	t _f		-	52	-	
Source-Drain Diode Ratings						
Continuous Source Current	I _S	V _{GS} < V _{th} (Note 1)	-	-	-1.5	A
Diode Forward Voltage	V _{SD}	I _S =-5.8A, V _{GS} =0V (Note 2)	-	-	-1.5	V

Note 1) Based on thermal dissipation from junction to ambient while mounted on a 1" × 1" PCB Board.

Note 2) Pulse test : Pulse width $\leq 300\mu s$.

Note 3) Guaranteed by design, not subject to production testing.

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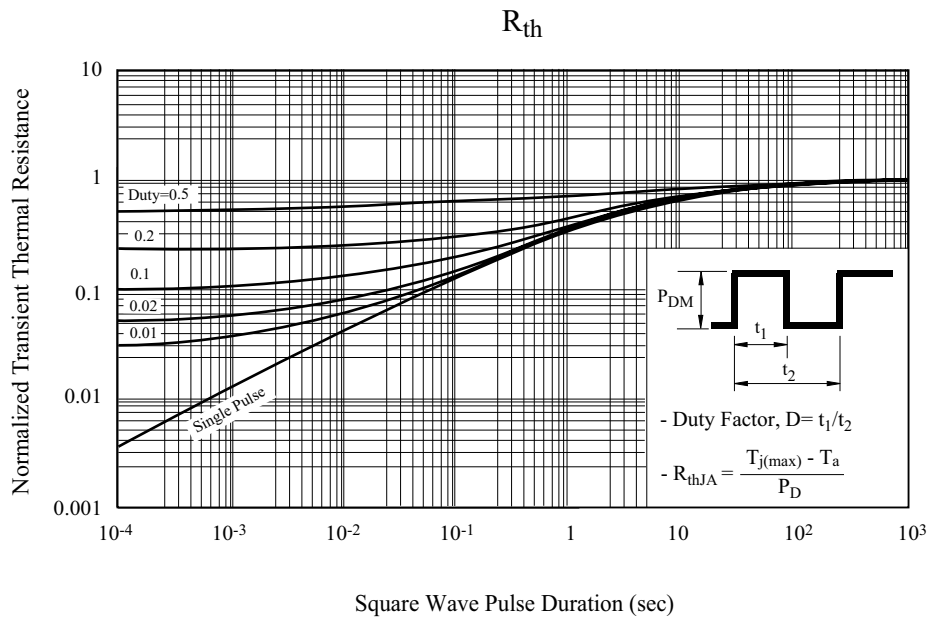
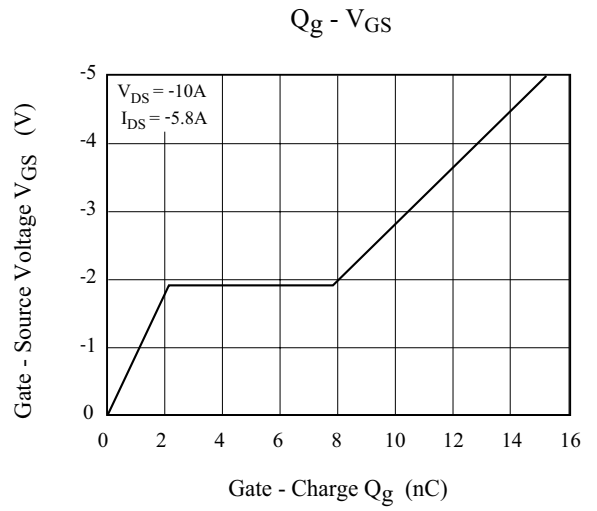
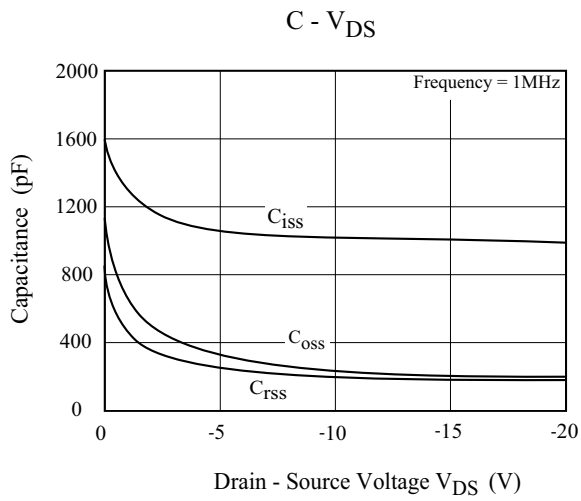


Fig. 1 Gate Charge

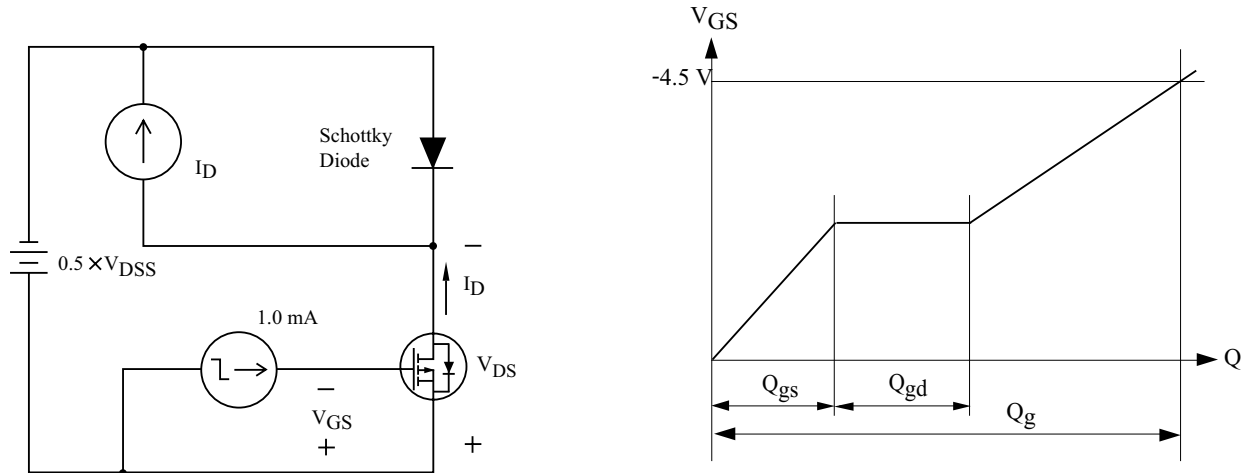


Fig. 2 Resistive Load Switching

