

General Description

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

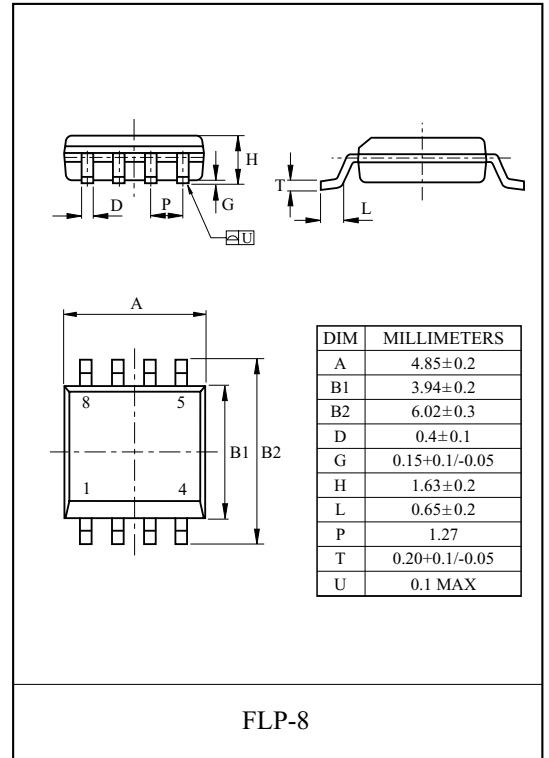
FEATURES

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

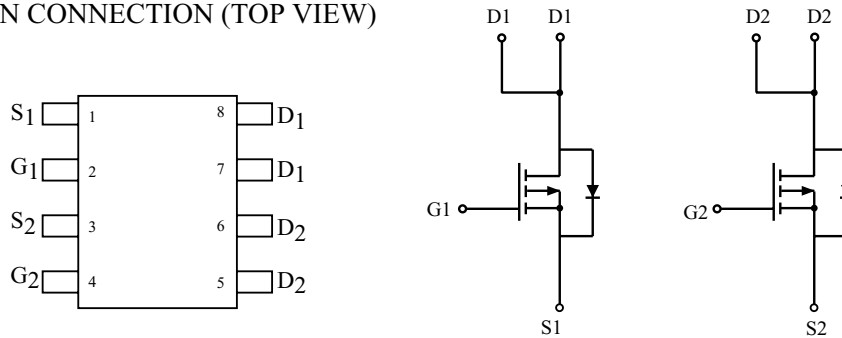
MAXIMUM RATING (Ta=25 °C)

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

* : Surface Mounted on 1" x 1" Board, t = 10sec.



PIN CONNECTION (TOP VIEW)



KMA5D8DP20Q

ELECTRICAL CHARACTERISTICS (Ta=25)

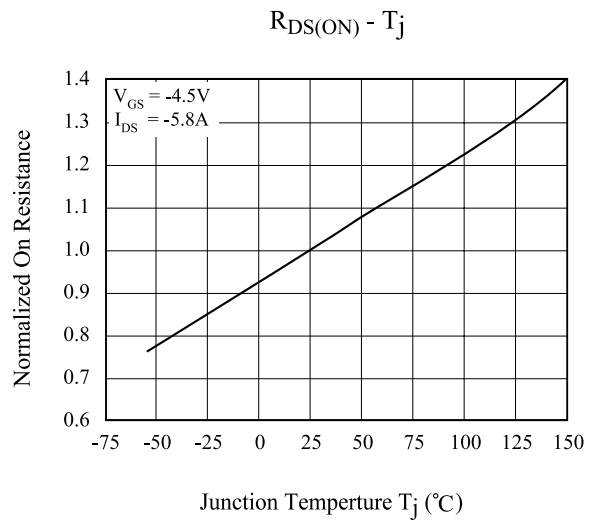
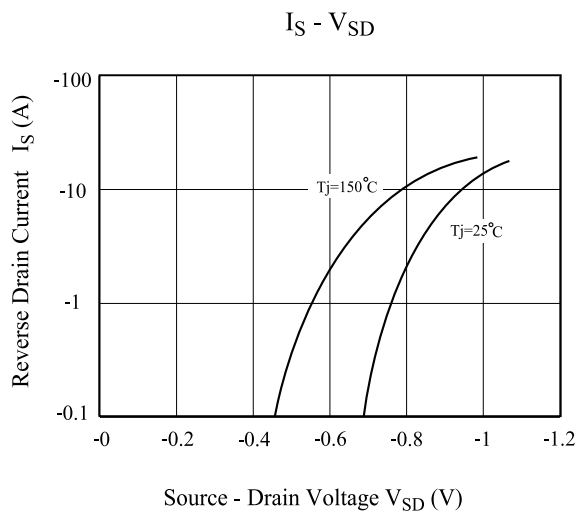
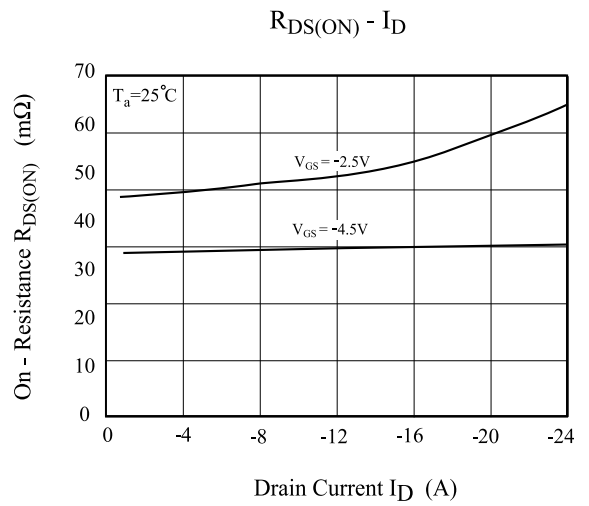
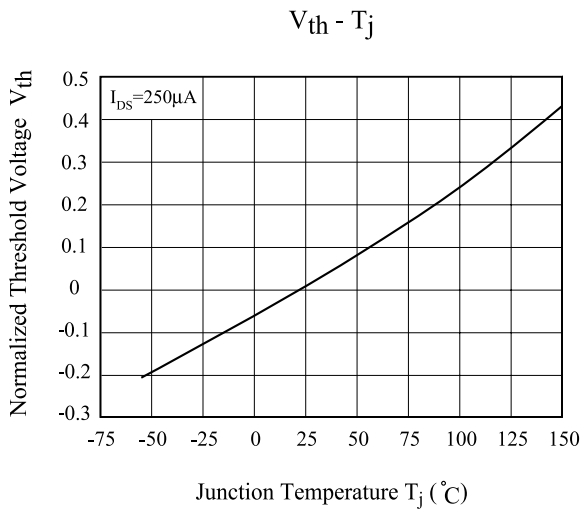
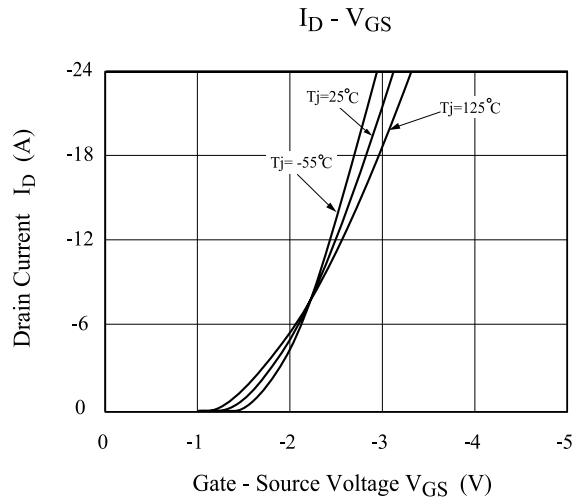
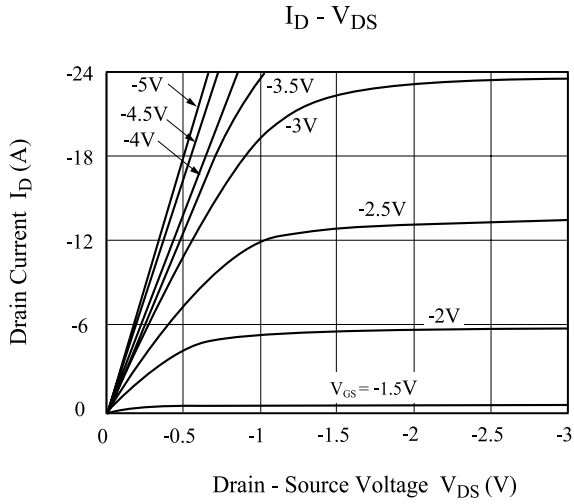
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\ \mu A, V_{GS}=0V,$	-20	-	-	V
Drain Cut-off Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V,$	-	-	-1	μA
Gate Threshold Voltage	V_{th}	$V_{DS}=V_{GS}, I_D=-250\ \mu A$	-0.6	-	-	V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-5.8A$ (Note 2)	-	29	36	m
		$V_{GS}=-2.5V, I_D=-4.4A$ (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	$t_{d(on)}$	$V_{DD}=-10V,$ $R_L=1.69, R_G=6$ (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.

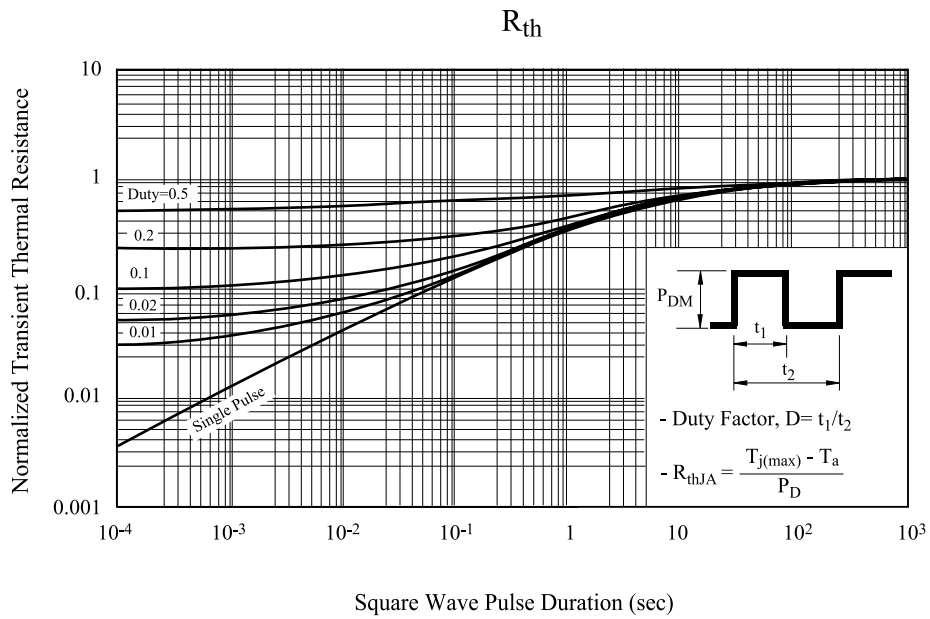
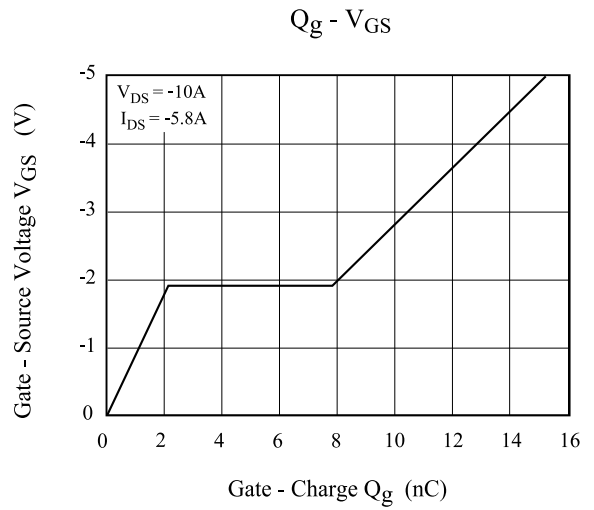
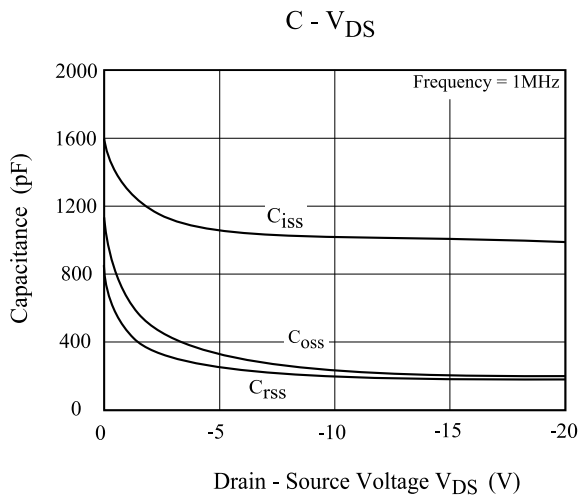
Note 2) Pulse test : Pulse width 300 μs .

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

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Fig. 1 Gate Charge

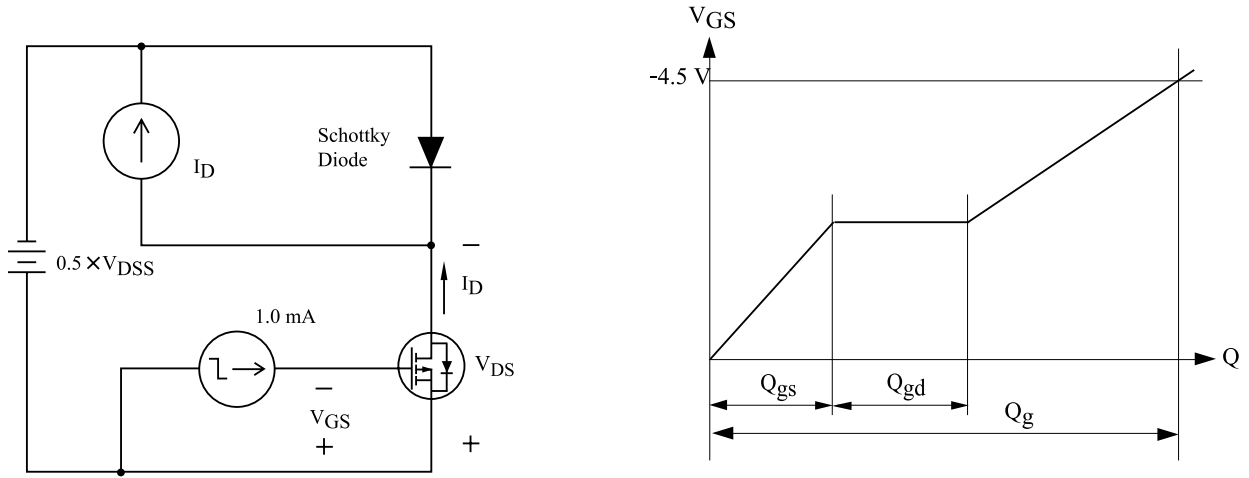


Fig. 2 Resistive Load Switching

