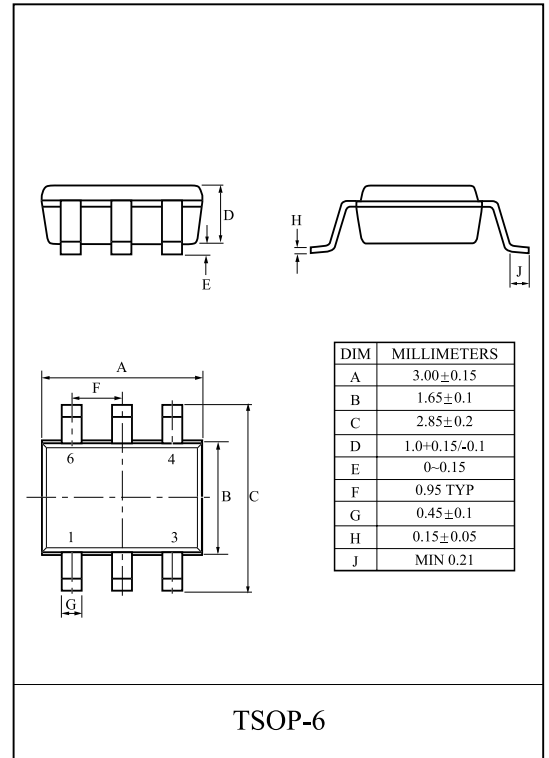


General Description

It is mainly suitable for use as a load switch in battery powered applications.

FEATURES

- $V_{DSS} = -20V$, $I_D = -2.0A$.
- Drain-Source ON Resistance.
 - : $R_{DS(ON)} = 130m$ (Max.) @ $V_{GS} = -4.5V$.
 - : $R_{DS(ON)} = 190m$ (Max.) @ $V_{GS} = -2.5V$.

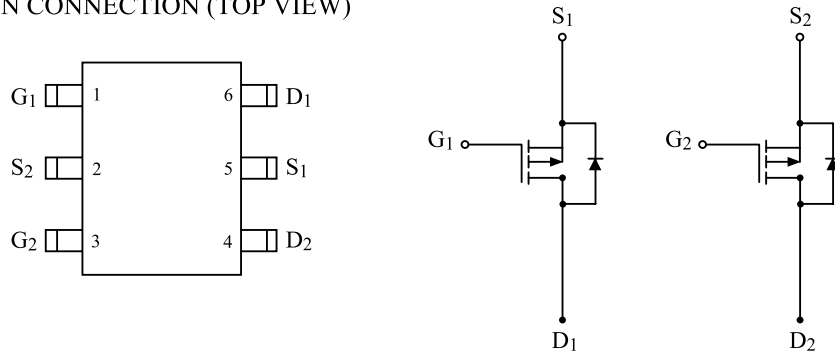


MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSS}	-20	V
Gate-Source Voltage		V_{GSS}	±10	V
Drain Current	DC	I_D^*	-2	A
	Pulsed	I_{DP}^*	-7	
Source-Drain Diode Current		I_S^*	-1.25	A
Drain Power Dissipation	Ta=25	P_D^*	1	W
Maximum Junction Temperature		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	
Thermal Resistance, Junction to Ambient		R_{thJA}^*	59	/W

* : Surface Mounted on 1"×1" Board, t = 10 μsec.

PIN CONNECTION (TOP VIEW)



KMA2D0DP20X

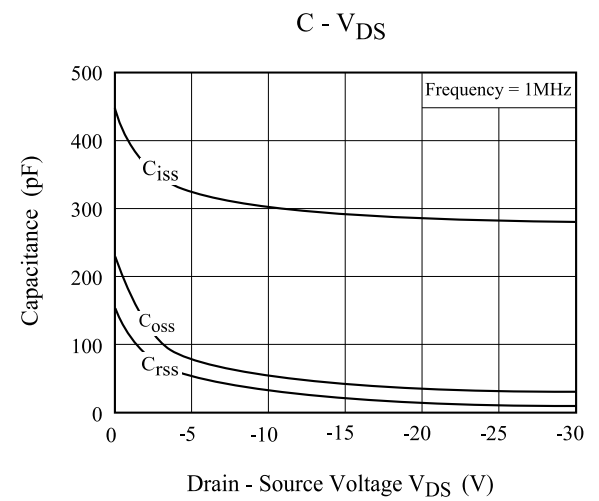
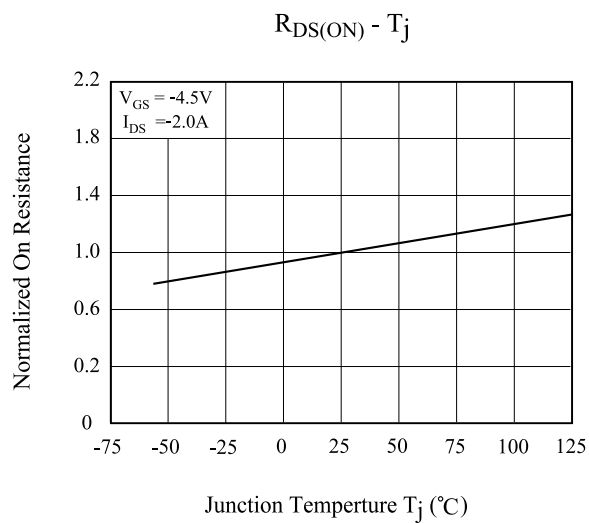
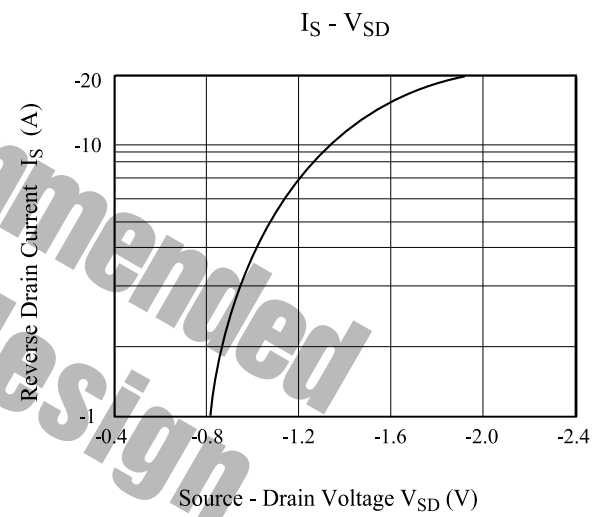
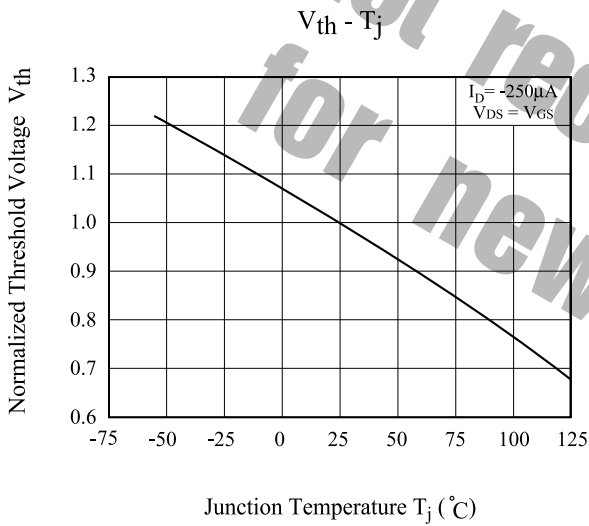
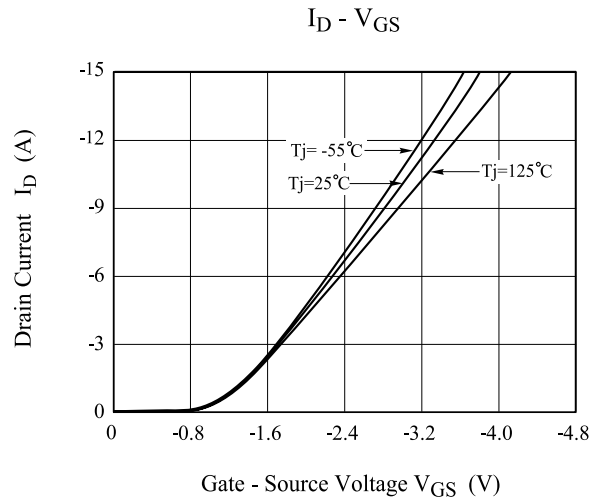
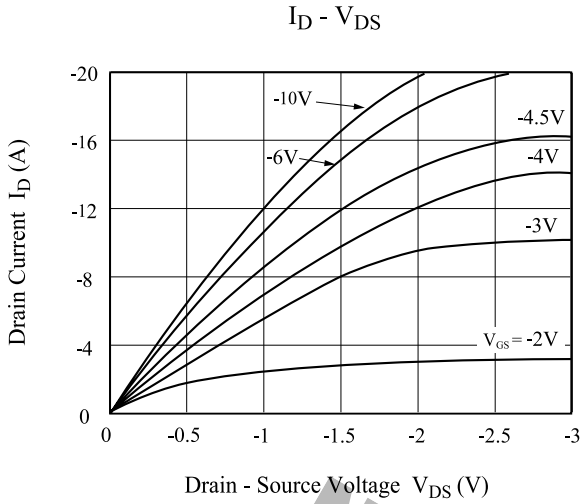
ELECTRICAL CHARACTERISTICS (Ta=25 °C)

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}	$V_{GS} = 0V, V_{DS} = -16V$	-	-	-1	μA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$	-	-	± 100	nA
Gate Threshold Voltage	V_{th}	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.5	-0.8	-1.5	V
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -2.0A$ (Note 2)	-	115	130	m
		$V_{GS} = -2.5V, I_D = -1.0A$ (Note 2)	-	175	190	
On-State Drain Current	$I_{D(ON)}$	$V_{GS} = -4.5V, V_{DS} = -5V$ (Note 2)	-5	-	-	A
Forward Transconductance	g_{fs}	$V_{DS} = -5V, I_D = -2A$ (Note 2)	-	6	-	S
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = -1.25A$ (Note 2)	-	-0.85	-1.2	V
Dynamic (Note 3)						
Total Gate Charge	Q_g	$V_{DS} = -10V, I_D = -2A$ $V_{GS} = -4.5V$ (Fig.1)	-	3.5	-	nC
Gate-Source Charge	Q_{gs}		-	0.9	-	
Gate-Drain Charge	Q_{gd}		-	1.1	-	
Turn-on Delay time	$t_{d(on)}$	$V_{DS} = -10V, I_D = -1A$ $V_{GS} = -4.5V, R_G = 6$ (Fig.2)	-	11.5	-	ns
Turn-on Rise time	t_r		-	15.6	-	
Turn-off Delay time	$t_{d(off)}$		-	83.1	-	
Turn-off Fall time	t_f		-	43.6	-	
Input Capacitance	C_{iss}	$V_{DS} = -20V, V_{GS} = 0V, f = 1.0MHz$	-	295	-	pF
Output Capacitance	C_{oss}		-	63	-	
Reverse Transfer Capacitance	C_{rss}		-	52	-	

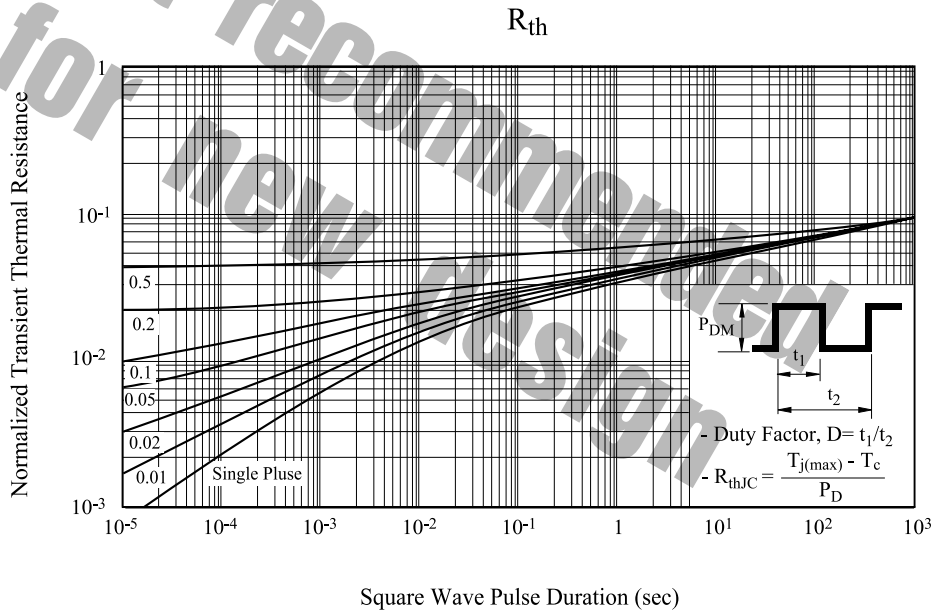
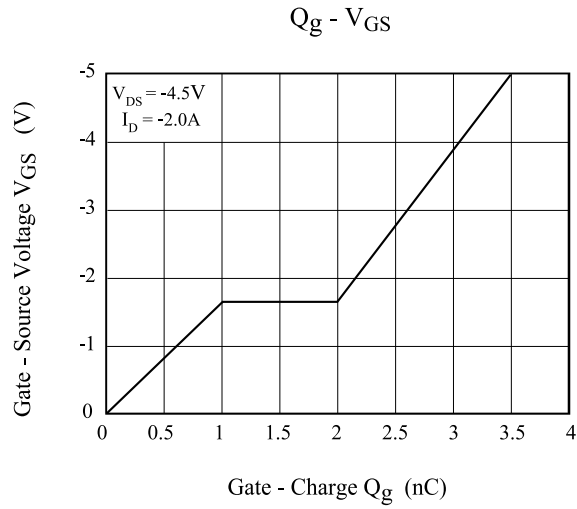
Note 1) Pulse test : Pulse width 300 μs , Duty Cycle 2%

Note 2) Guaranteed by design, not subject to production testing.

KMA2D0DP20X



KMA2D0DP20X



KMA2D0DP20X

Fig. 1 Gate Charge

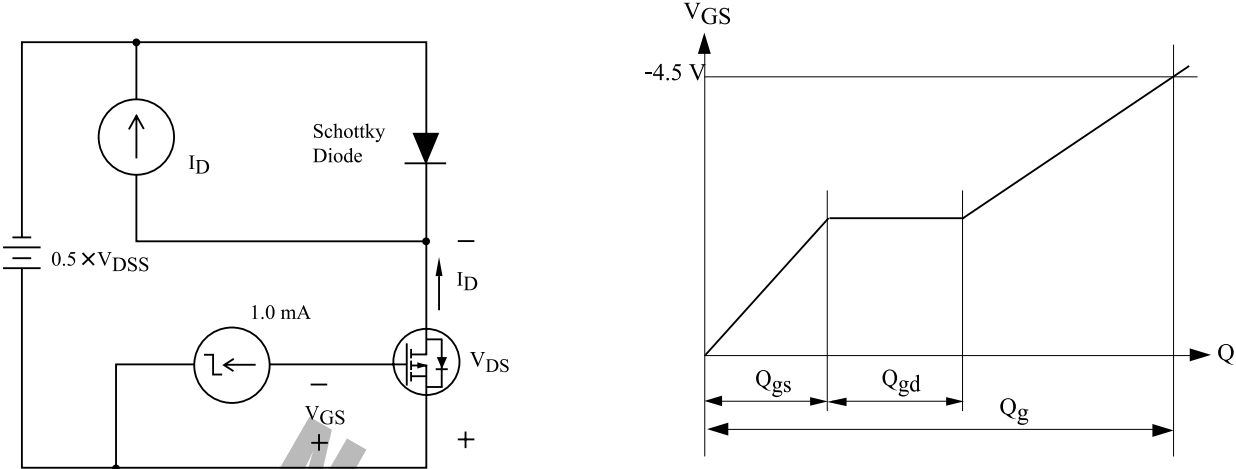


Fig. 2 Resistive Load Switching

