

General Description

It is Mainly Suitable for Load Switching Cell Phones, Battery Powered Systems and Level-Shifter.

FEATURES

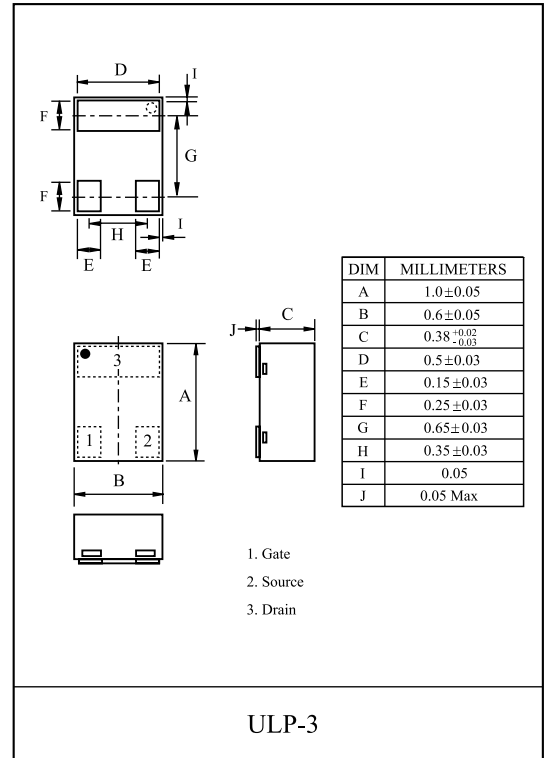
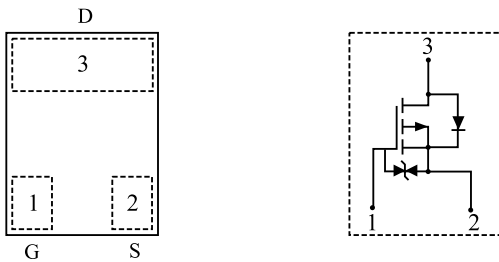
- $V_{DSS} = -20V$, $I_D = -0.3A$
- Drain-Source ON Resistance
 - : $R_{DS(ON)} = 1.2$ @ $V_{GS} = -4.5V$
 - : $R_{DS(ON)} = 1.6$ @ $V_{GS} = -2.5V$
 - : $R_{DS(ON)} = 2.7$ @ $V_{GS} = -1.8V$

MAXIMUM RATING (Ta=25 °C)

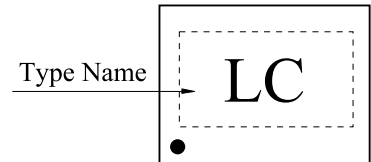
CHARACTERISTIC		SYMBOL	P-Ch	UNIT
Drain-Source Voltage		V_{DSS}	-20	V
Gate-Source Voltage		V_{GSS}	± 6	V
Drain Current	DC @ $T_A = 25$	I_D^*	-300	mA
	DC @ $T_A = 85$		-210	
	Pulsed	I_{DP}^*	-1200	
Drain Power Dissipation		P_D^*	284	mW
Maximum Junction Temperature		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	
Thermal Resistance, Junction to Ambient		R_{thJA}^*	440	/W

Note 1) *Surface Mounted on FR4 Board, t = 5sec

PIN CONNECTION (TOP VIEW)



Marking



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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}	$V_{GS} = 0V, V_{DS} = -16V$	-	-0.3	-100	nA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 4.5V, V_{DS} = 0V$	-	± 1.0	± 2.0	μA
Gate Threshold Voltage	V_{th}	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.45	-	-1.0	V
Drain-Source ON Resistance	$R_{DS(ON)}^*$	$V_{GS} = -4.5V, I_D = -300mA$	-	0.80	1.20	
		$V_{GS} = -2.5V, I_D = -250mA$	-	1.20	1.60	
		$V_{GS} = -1.8V, I_D = -150mA$	-	1.80	2.70	
Forward Transconductance	g_{fs}^*	$V_{DS} = -10V, I_D = -300mA$	-	0.4	-	S
Source-Drain Diode Forward Voltage	V_{SD}^*	$I_S = -150mA, V_{GS} = 0V$	-	-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g^*	$V_{DS} = -10V, I_D = -250mA, V_{GS} = -4.5V$	-	1500	-	pC
Gate-Source Charge	Q_{gs}^*		-	150	-	
Gate-Drain Charge	Q_{gd}^*		-	450	-	
Turn-on Delay time	$t_{d(on)}^*$	$V_{DD} = -10V, V_{GS} = -4.5V$ $I_D = -200mA, R_G = 10$	-	5	-	ns
Turn-off Delay time	$t_{d(off)}^*$		-	35	-	ns

Note 2) *Pulse test : Pulse width 300 μ s, Duty Cycle 2%.

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Fig 1. $I_D - V_{DS}$

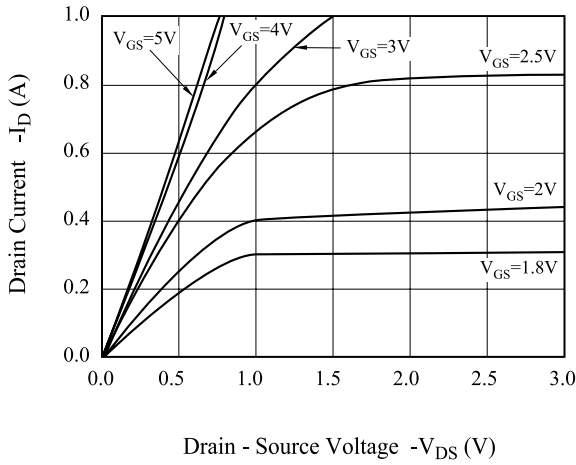


Fig 2. $R_{DS(on)} - I_D$

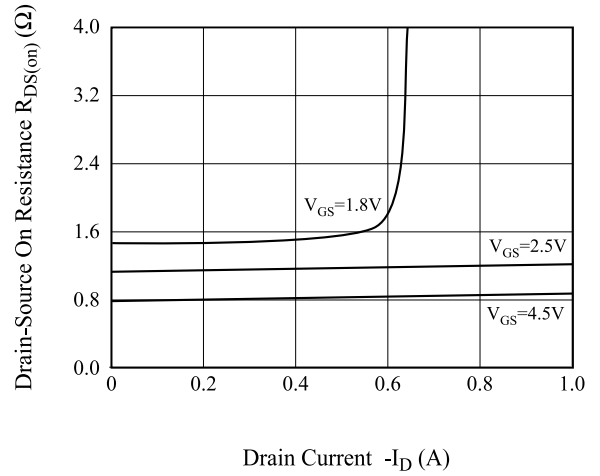


Fig 3. $I_D - V_{GS}$

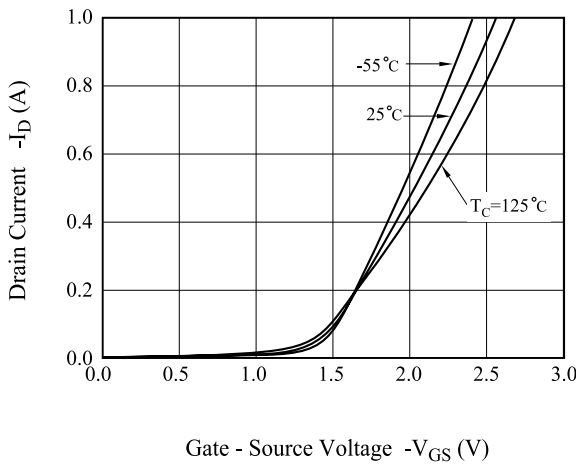


Fig 4. $R_{DS(on)} - T_j$

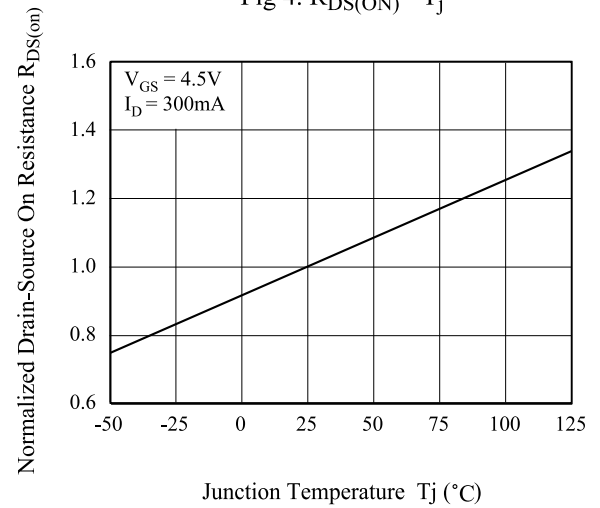


Fig 5. $V_{th} - T_j$

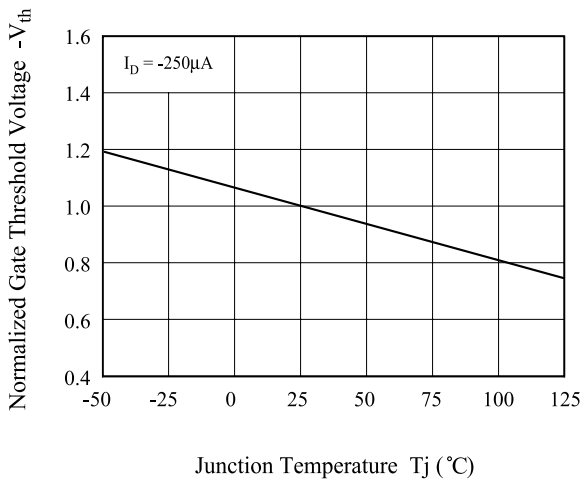
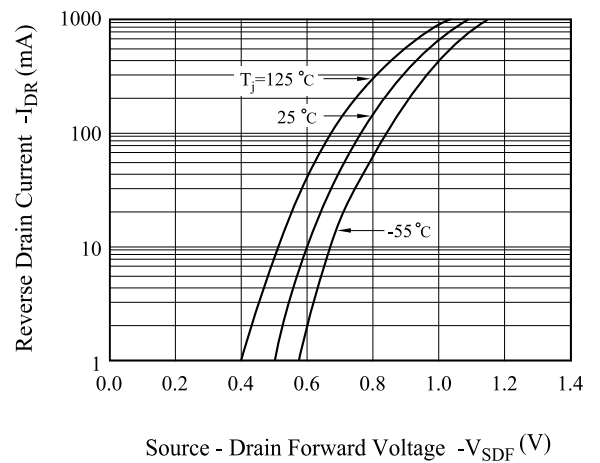


Fig 6. $I_{DR} - V_{SDF}$



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Fig 7. $V_{GS} - Q_g$

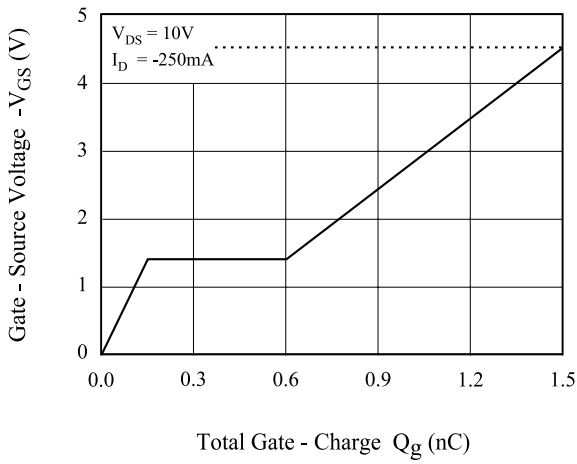


Fig 8. $C - V_{DS}$

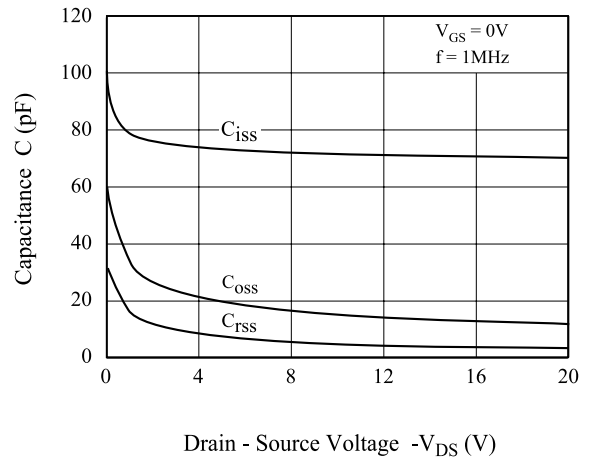


Fig 9. Transient Thermal Response Curve

