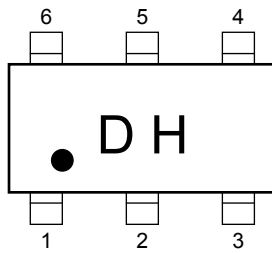
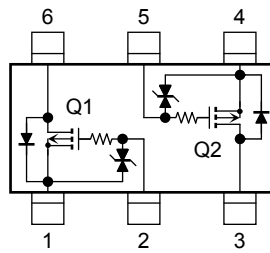




## Marking



## Equivalent Circuit (top view)



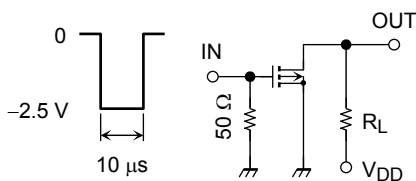
## Electrical Characteristics (Ta = 25°C) (Q1, Q2 common)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0$	—	—	$\pm 1$	$\mu\text{A}$
Drain-Source breakdown voltage	$V_{(BR)DSS}$	$I_D = -1\text{ mA}, V_{GS} = 0$	-20	—	—	V
Drain cut-off current	$I_{DSS}$	$V_{DS} = -20\text{ V}, V_{GS} = 0$	—	—	-1	$\mu\text{A}$
Gate threshold voltage	$V_{th}$	$V_{DS} = -3\text{ V}, I_D = -0.1\text{ mA}$	-0.6	—	-1.1	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -3\text{ V}, I_D = -50\text{ mA}$ (Note2)	100	—	—	mS
Drain-Source ON resistance	$R_{DS(ON)}$	$I_D = -100\text{ mA}, V_{GS} = -4\text{ V}$ (Note2)	—	2.1	3.3	$\Omega$
		$I_D = -50\text{ mA}, V_{GS} = -2.5\text{ V}$ (Note2)	—	3.2	4.0	
Input capacitance	$C_{iss}$	$V_{DS} = -3\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	27	—	pF
Reverse transfer capacitance	$C_{rss}$		—	7	—	pF
Output capacitance	$C_{oss}$		—	21	—	pF
Switching time	Turn-on time	$t_{on}$	$V_{DD} = -3\text{ V}, I_D = -50\text{ mA},$		—	ns
	Turn-off time	$t_{off}$	$V_{GS} = 0 \sim -2.5\text{ V}$		—	

Note2: Pulse test

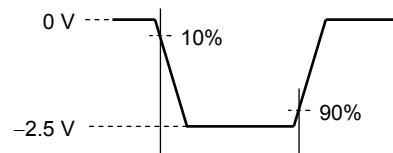
## Switching Time Test Circuit (Q1, Q2 common)

### (a) Test circuit

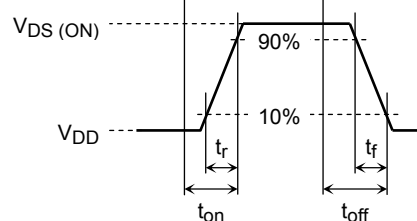


$V_{DD} = -3\text{ V}$   
 Duty  $\leq 1\%$   
 $V_{IN}$ :  $t_r, t_f < 5\text{ ns}$   
 ( $Z_{out} = 50\ \Omega$ )  
 Common Source  
 $T_a = 25^\circ\text{C}$

### (b) $V_{IN}$



### (c) $V_{OUT}$

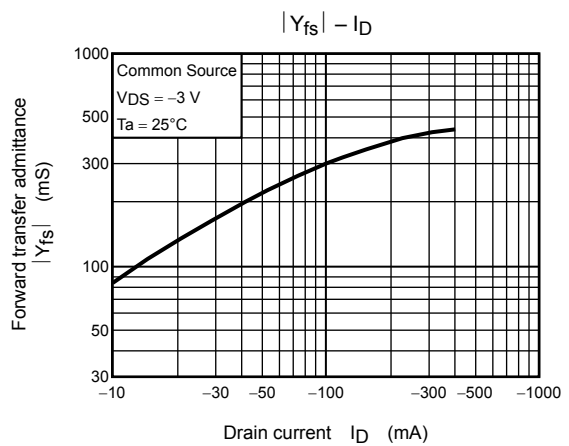
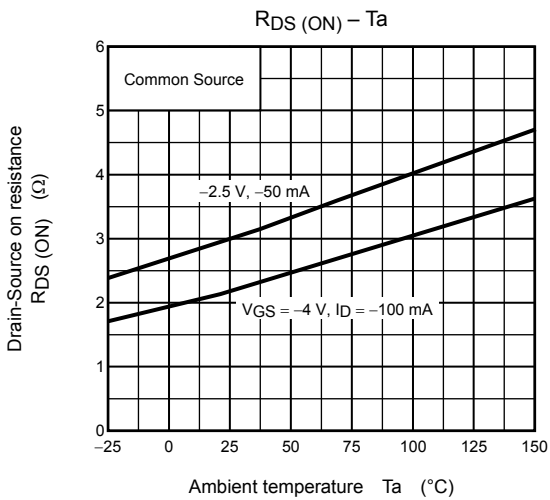
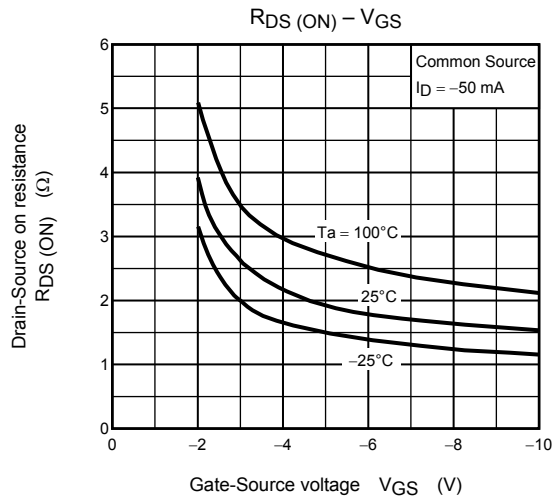
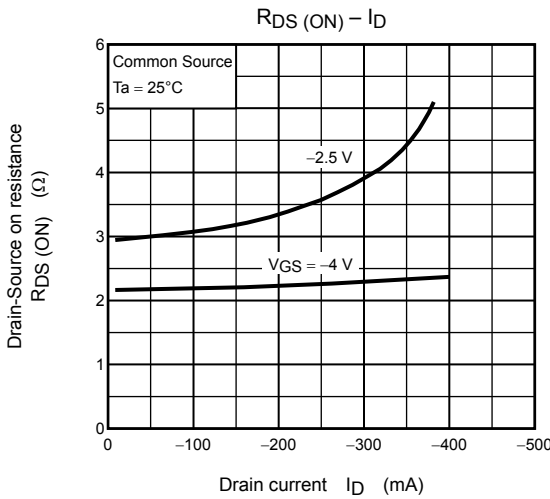
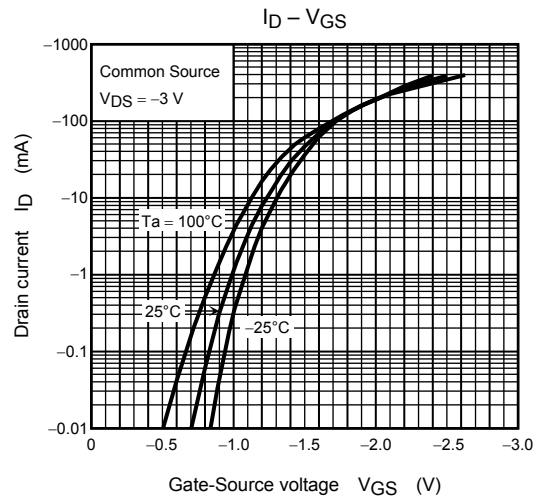
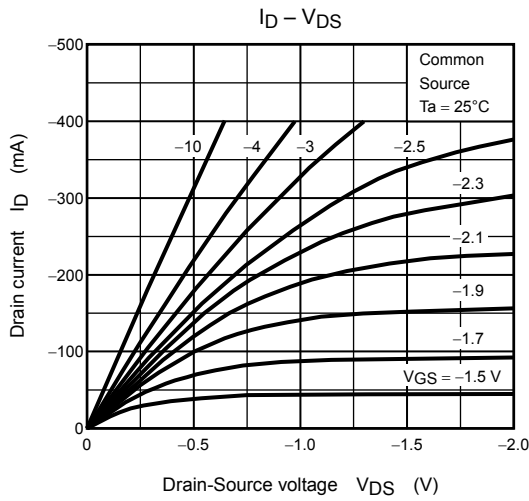


## Precaution

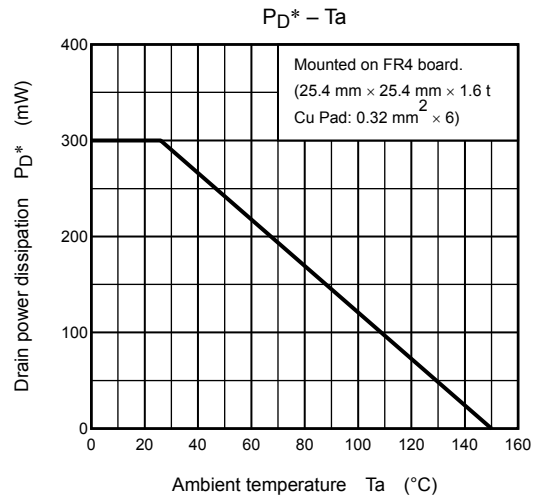
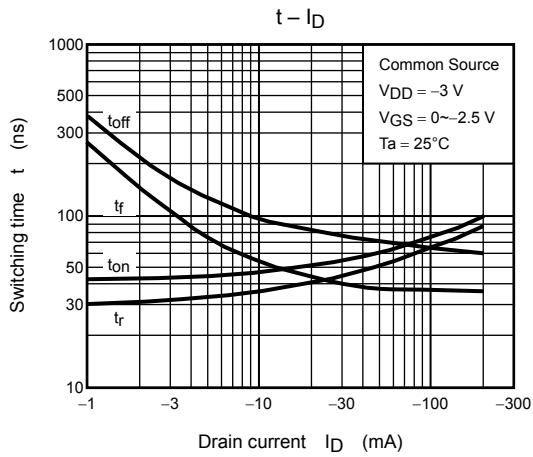
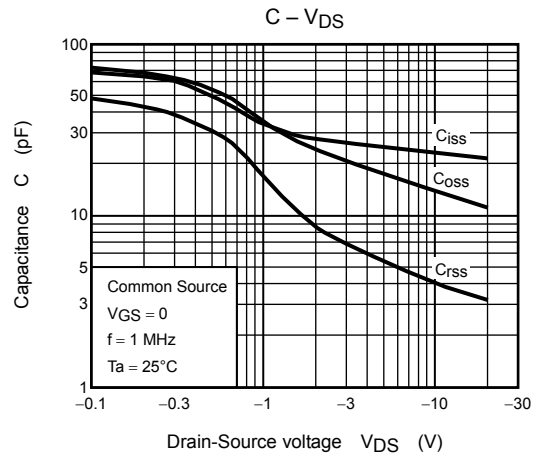
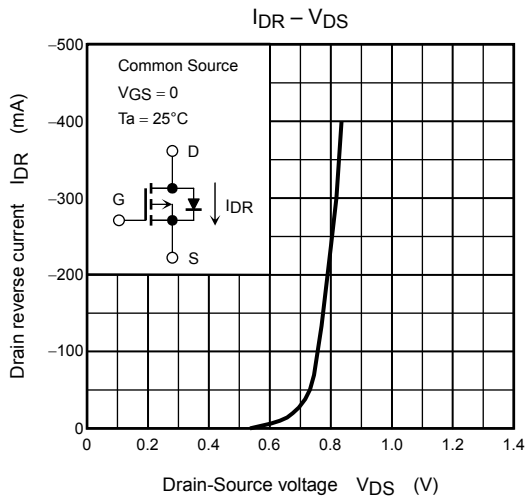
$V_{th}$  can be expressed as voltage between gate and source when low operating current value is  $I_D = -100\ \mu\text{A}$  for this product. For normal switching operation,  $V_{GS(on)}$  requires higher voltage than  $V_{th}$  and  $V_{GS(off)}$  requires lower voltage than  $V_{th}$ . (Relationship can be established as follows:  $V_{GS(off)} < V_{th} < V_{GS(on)}$ )

Please take this into consideration for using the device.

(Q1, Q2 common)



(Q1, Q2 common)



\*: Total rating

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20070701-EN GENERAL

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