

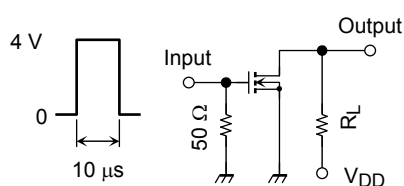
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$	—	—	± 1	μA
Drain-Source breakdown voltage	$V_{(BR)DSS}$	$I_D = 1 \text{ mA}, V_{GS} = 0$	30	—	—	V
Drain cut-off current	I_{DSS}	$V_{DS} = 30 \text{ V}, V_{GS} = 0$	—	—	1	μA
Gate threshold voltage	V_{th}	$V_{DS} = 5 \text{ V}, I_D = 0.1 \text{ mA}$	1.1	—	1.8	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 5 \text{ V}, I_D = 200 \text{ mA}$ (Note2)	270	—	—	mS
Drain-Source ON resistance	$R_{DS(ON)}$	$I_D = 200 \text{ mA}, V_{GS} = 10 \text{ V}$ (Note2)	—	0.5	0.7	Ω
		$I_D = 200 \text{ mA}, V_{GS} = 4 \text{ V}$ (Note2)	—	0.8	1.2	
		$I_D = 200 \text{ mA}, V_{GS} = 3.3 \text{ V}$ (Note2)	—	1.0	1.7	
Input capacitance	C_{iss}	$V_{DS} = 5 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	20	—	pF
Reverse transfer capacitance	C_{rss}	$V_{DS} = 5 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	7	—	pF
Output capacitance	C_{oss}	$V_{DS} = 5 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	16	—	pF
Switching time	Turn-on time	$V_{DD} = 5 \text{ V}, I_D = 200 \text{ mA},$ $V_{GS} = 0 \text{ to } 4 \text{ V}$	—	72	—	ns
	Turn-off time		—	68	—	ns

Note2: Pulse test

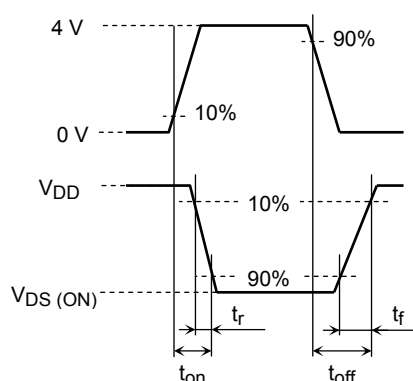
Switching Time Test Circuit

(a) Test circuit



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

(b) V_{IN}



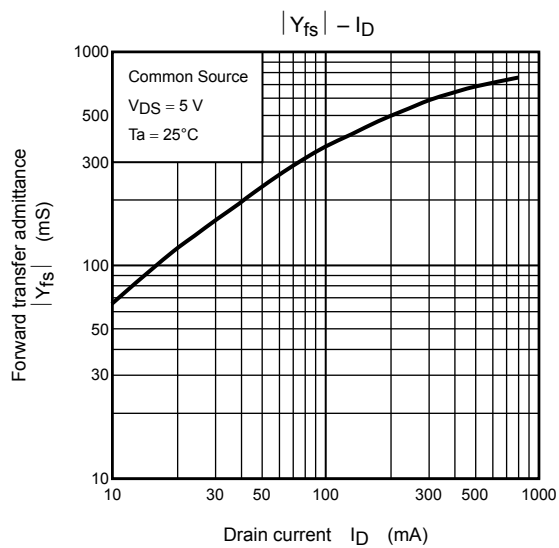
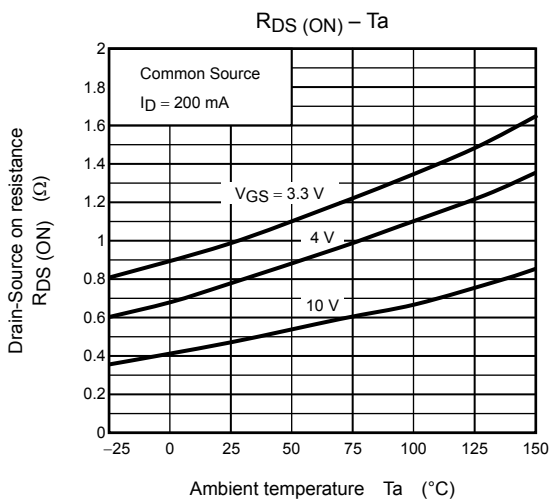
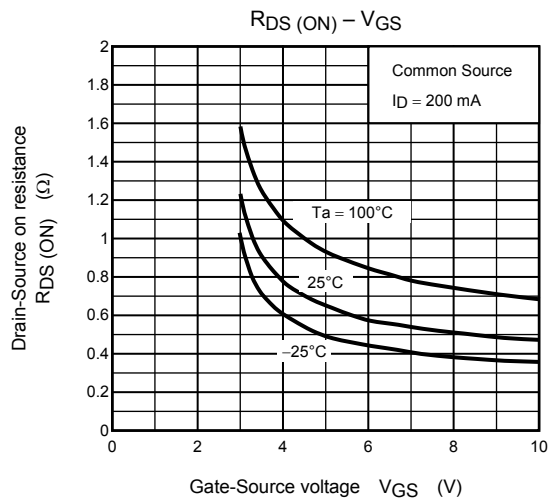
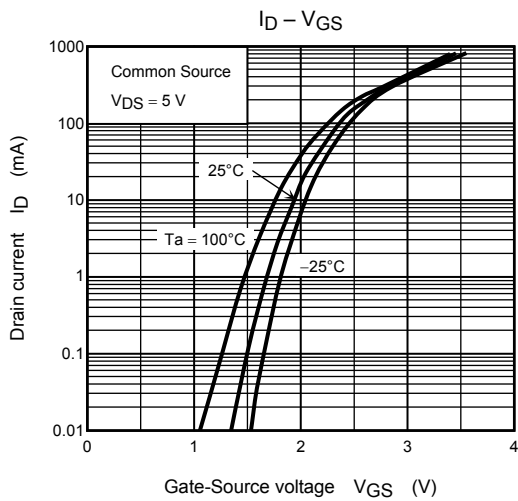
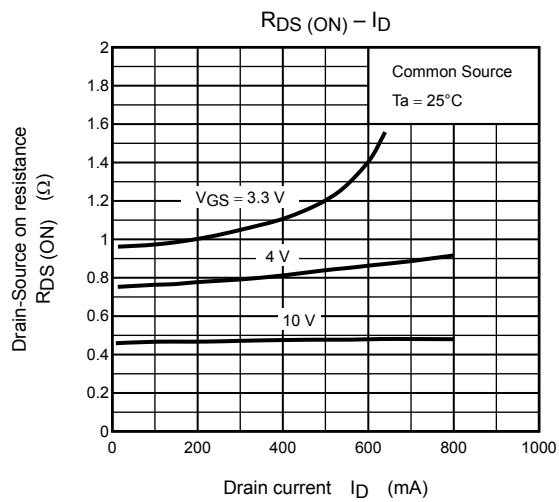
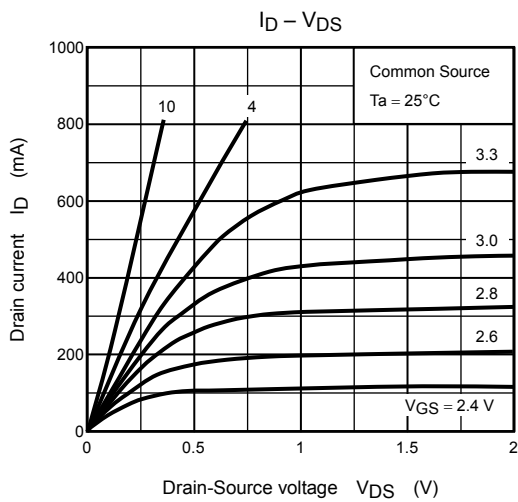
(c) V_{OUT}

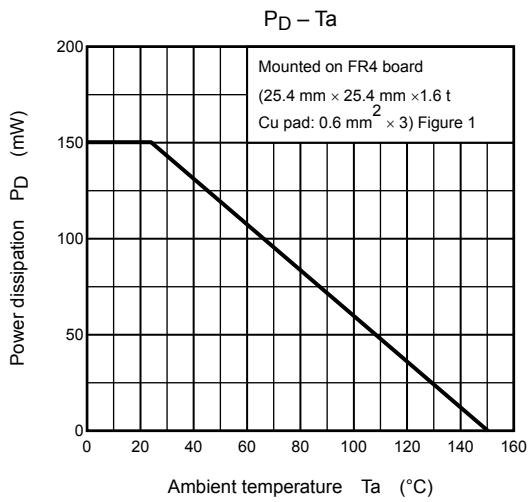
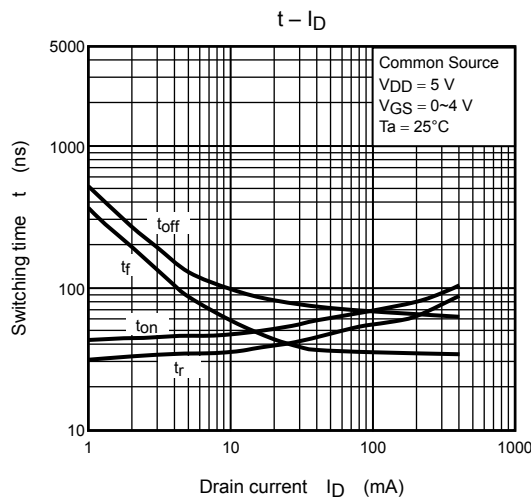
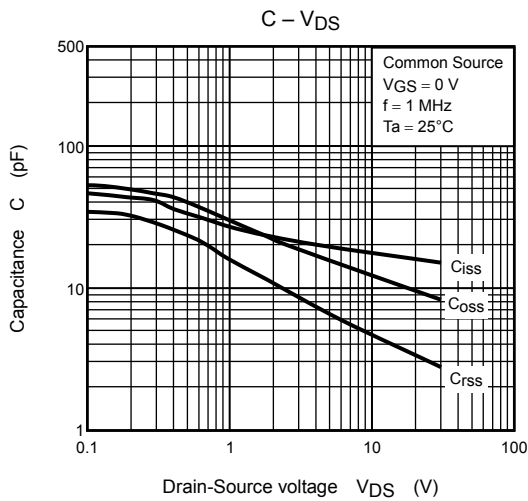
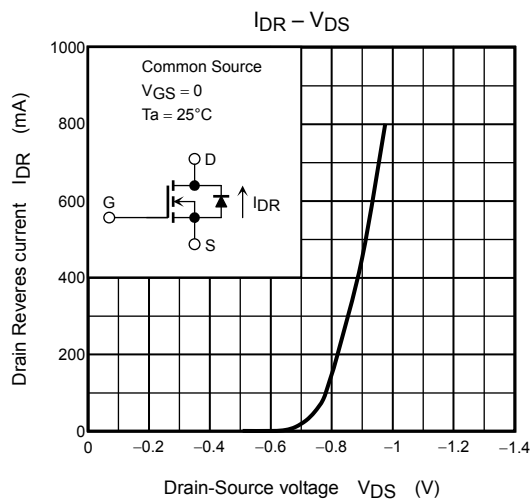
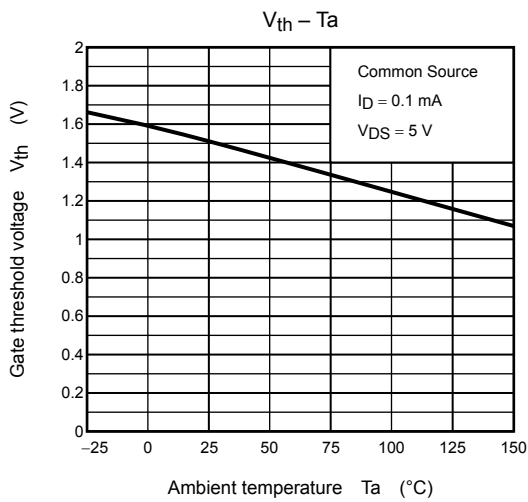
Precaution

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.





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