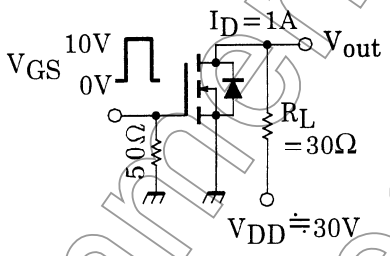
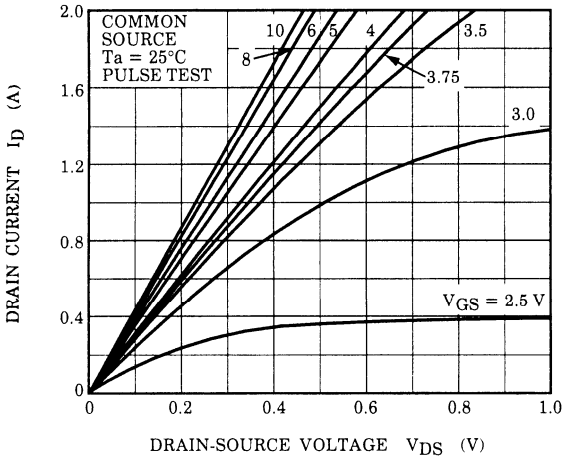
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		I_{GSS}	V_{GS} = ±16 V, V_{DS} = 0 V	—	—	±10	μA
Drain cut−off current		I_{DSS}	V_{DS} = 60 V, V_{GS} = 0 V	—	—	100	μA
Drain−source breakdown voltage		$V_{(BR)\ DSS}$	I_D = 10 mA, V_{GS} = 0 V	60	—	—	V
Gate threshold voltage		V_{th}	V_{DS} = 10 V, I_D = 1 mA	0.8	—	2.0	V
Drain−source ON resistance		$R_{DS\ (ON)}$	VGS = 4 V, ID = 1 A	—	0.33	0.44	Ω
			VGS = 10 V, ID = 1 A	—	0.23	0.30	
Forward transfer admittance		$\|Y_{fs}\|$	V_{DS} = 10 V, I_D = 1 A	1.0	2.0	—	S
Input capacitance		C_{iss}	V_{DS} = 10 V, V_{GS} = 0 V, f = 1 MHz	—	150	—	pF
Reverse transfer capacitance		C_{rss}		—	25	—	
Output capacitance		C_{oss}		—	70	—	
Switching time	Rise time	t_r		—	25	—	ns
	Turn−on time	t_{on}		—	30	—	
	Fall time	t_f		—	50	—	
	Turn−off time	t_{off}		—	150	—	
Total gate charge (gate−source plus gate−drain)		Q_g	V_{DD} ≈ 48 V, V_{GS} = 10 V, I_D = 2 A	—	6.0	—	nC
Gate−source charge		Q_{gs}		—	4.6	—	
Gate−drain (“miller”) Charge		Q_{gd}		—	1.4	—	

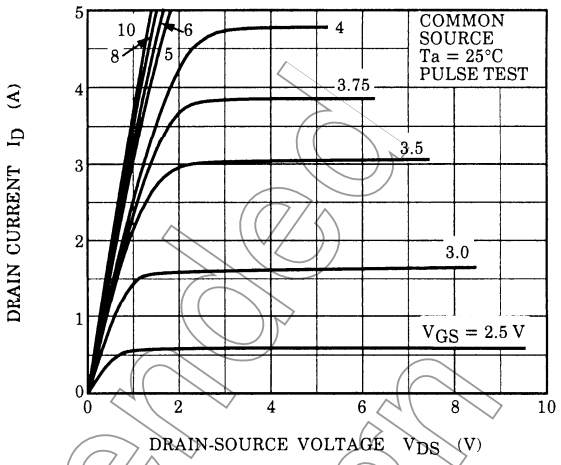
Source−Drain Ratings and Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Continuous drain reverse current (Note 1)	I_{DR}	—	—	—	2	A
Pulse drain reverse current (Note 1)	I_{DRP}	—	—	—	6	A
Forward voltage (diode)	V_{DSF}	I_{DR} = 2 A, V_{GS} = 0 V	—	—	−1.5	V
Reverse recovery time	t_{rr}	I_{DR} = 2 A, V_{GS} = 0 V dI_{DR} / dt = 50 A / μs	—	100	—	ns
Reverse recovery charge	Q_{rr}		—	40	—	nC

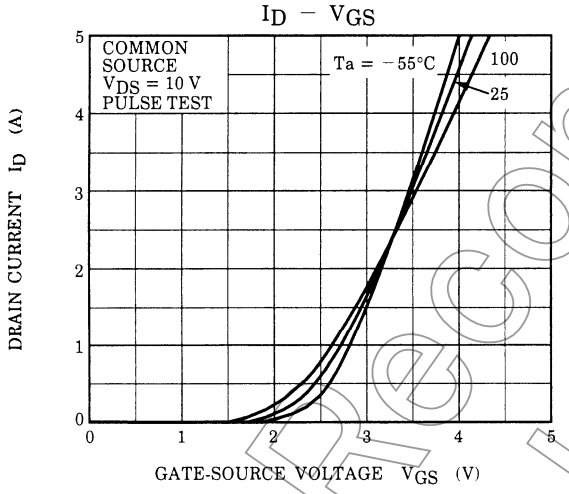
$I_D - V_{DS}$



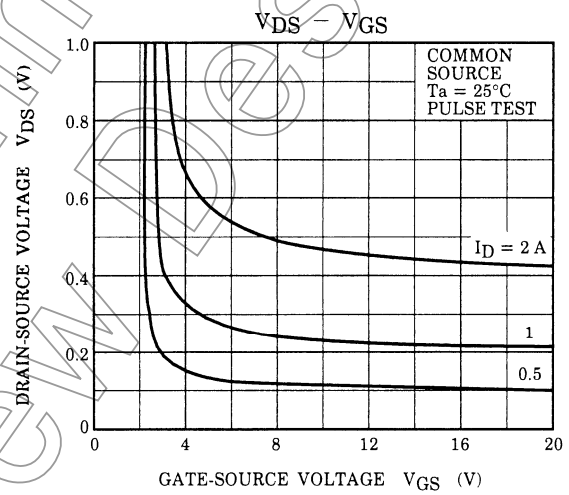
$I_D - V_{DS}$



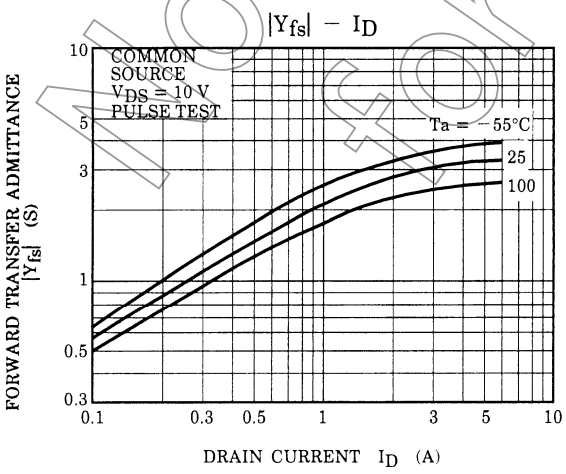
$I_D - V_{GS}$



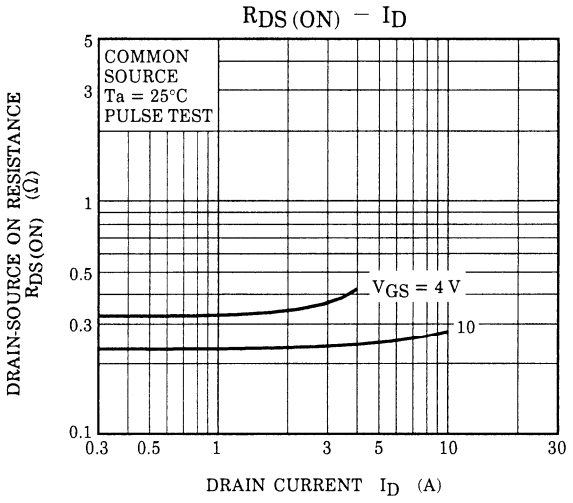
$V_{DS} - V_{GS}$



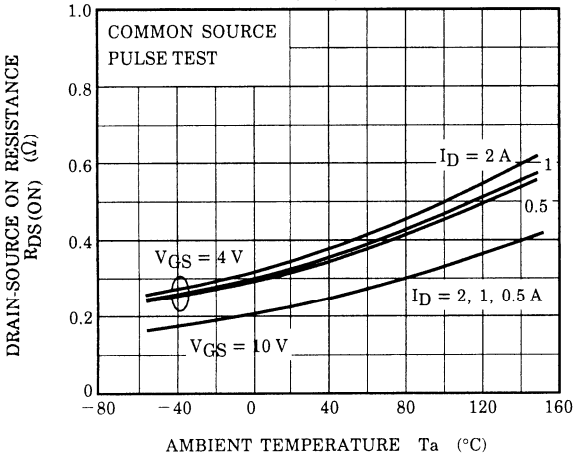
$|Y_{fs}| - I_D$



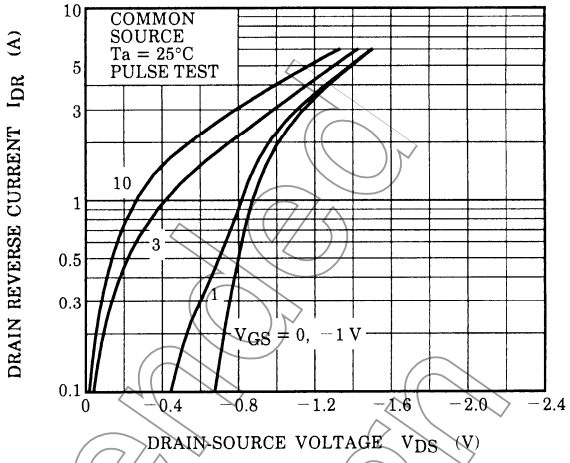
$R_{DS\,(ON)} - I_D$



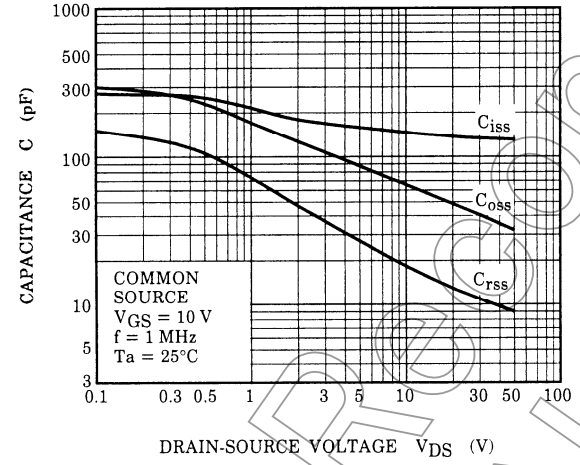
$R_{DS\,(ON)}$ – Ta



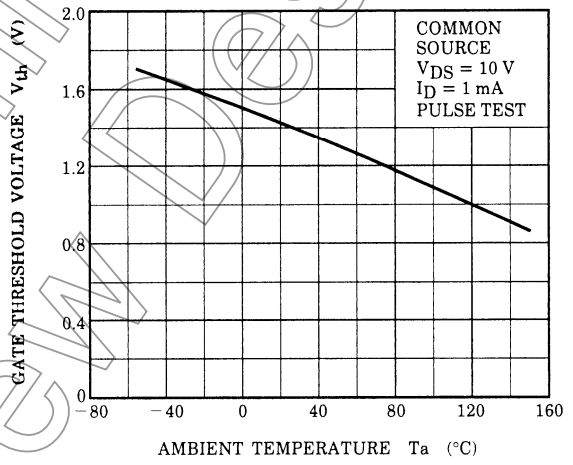
I_{DR} – V_{DS}



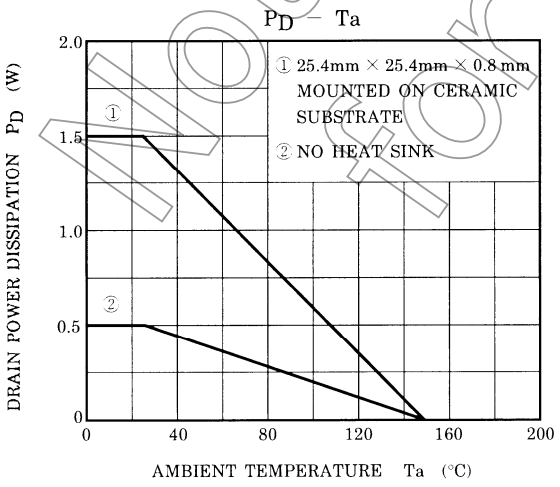
CAPACITANCE – V_{DS}



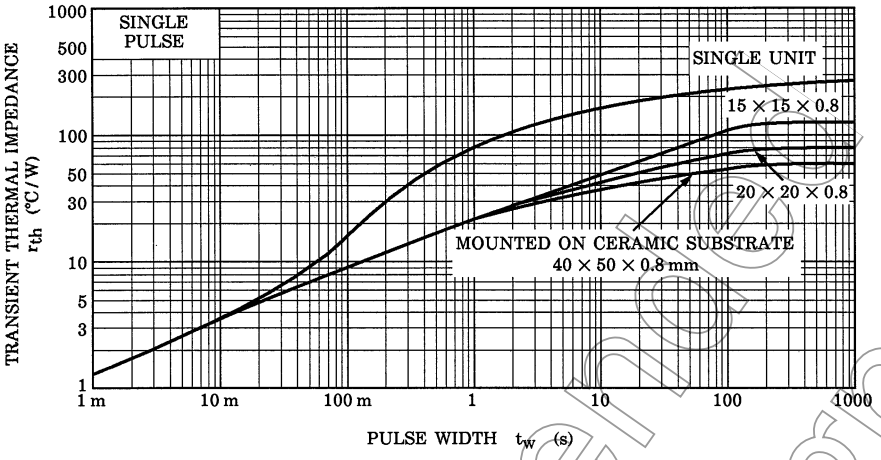
V_{th} – Ta



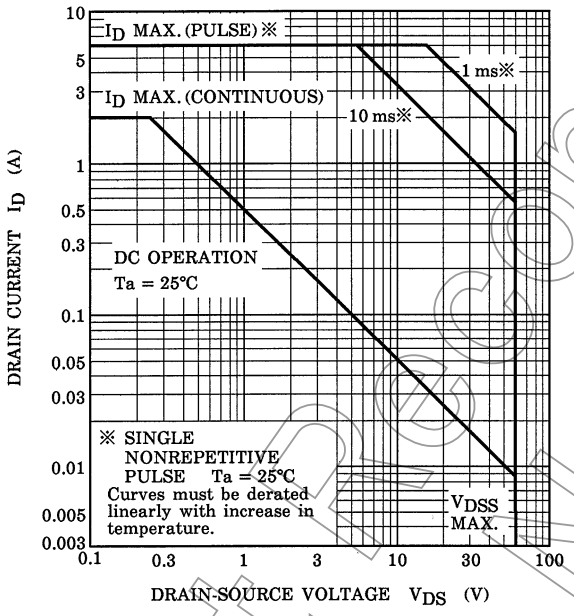
P_D – Ta



$r_{th} - t_w$



SAFE OPERATING AREA



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