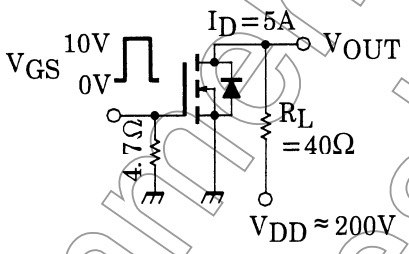
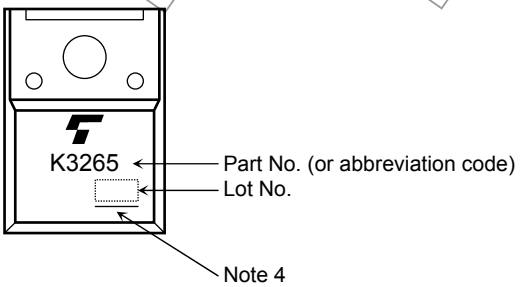
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		I_{GSS}	V_{GS} = ±25 V, V_{DS} = 0 V	—	—	±10	μA
Gate−source breakdown voltage		$V_{(BR)\ GSS}$	I_G = ±10 μA, V_{DS} = 0 V	±30	—	—	V
Drain cut−off current		I_{DSS}	V_{DS} = 700 V, V_{GS} = 0 V	—	—	100	μA
Drain−source breakdown voltage		$V_{(BR)\ DSS}$	I_D = 10 mA, V_{GS} = 0 V	700	—	—	V
Gate threshold voltage		V_{th}	V_{DS} = 10 V, I_D = 1 mA	2.0	—	4.0	V
Drain−source ON resistance		$R_{DS\ (ON)}$	V_{GS} = 10 V, I_D = 5 A	—	0.72	1.0	Ω
Forward transfer admittance		$\|Y_{fs}\|$	V_{DS} = 10 V, I_D = 5 A	4.0	7.0	—	S
Input capacitance		C_{iss}	V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz	—	1700	—	pF
Reverse transfer capacitance		C_{rss}		—	40	—	
Output capacitance		C_{oss}		—	200	—	
Switching time	Rise time	tr		—	40	—	ns
	Turn−on time	t_{on}		—	72	—	
	Fall time	t_f		—	42	—	
	Turn−off time	t_{off}		—	145	—	
Total gate charge (Gate−source plus gate−drain)		Q_g	V_{DD} ≈ 400 V, V_{GS} = 10 V, I_D = 10 A	—	53	—	nC
Gate−source charge		Q_{gs}		—	25	—	
Gate−drain (“miller”) charge		Q_{gd}		—	28	—	

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Continuous drain reverse current (Note 1)	I_{DR}	—	—	—	10	A
Pulse drain reverse current (Note 1)	I_{DRP}	—	—	—	30	A
Forward voltage (diode)	V_{DSF}	I_{DR} = 10 A, V_{GS} = 0 V	—	—	−1.9	V
Reverse recovery time	t_{rr}	I_{DR} = 10 A, V_{GS} = 0 V dI_{DR} / dt = 100 A / μs	—	1400	—	ns
Reverse recovery charge	Q_{rr}		—	17.5	—	μC

Marking

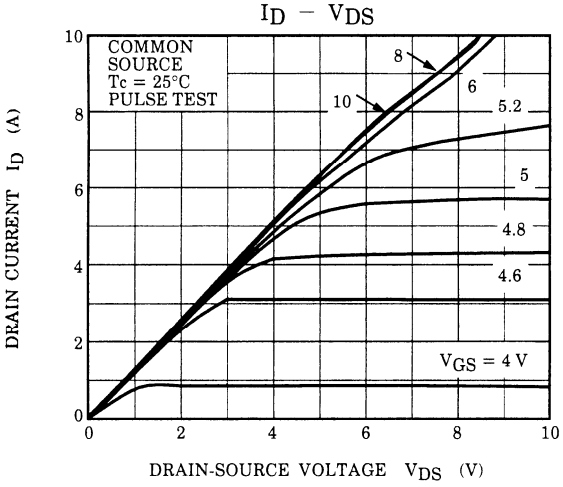


Note 4: A line under a Lot No. identifies the indication of product Labels.

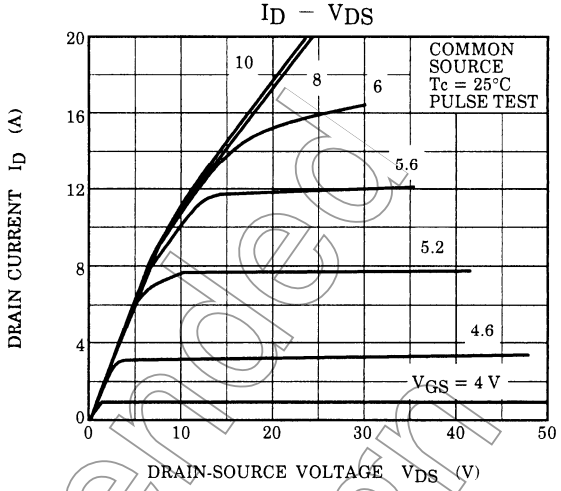
[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

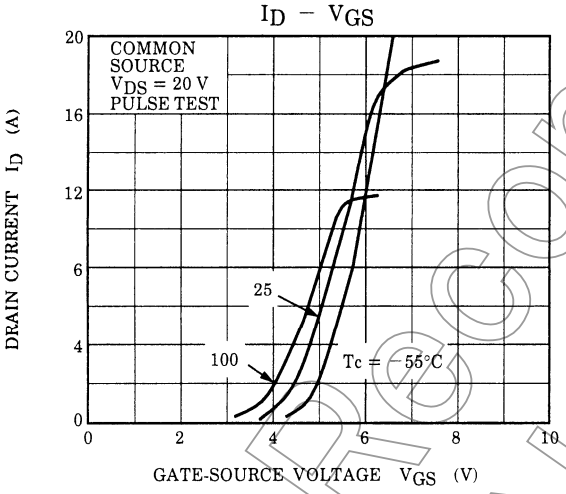
$I_D - V_{DS}$



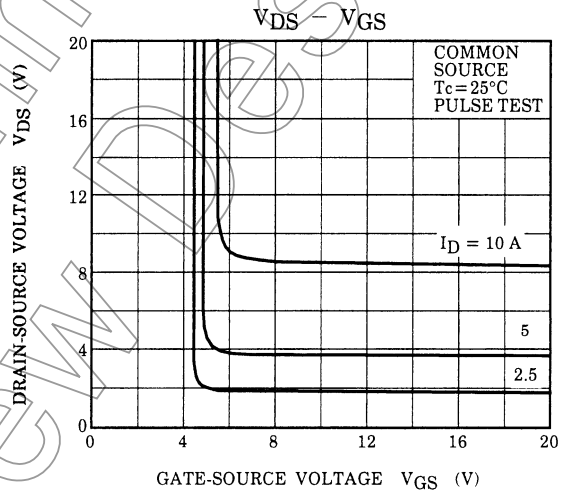
$I_D - V_{DS}$



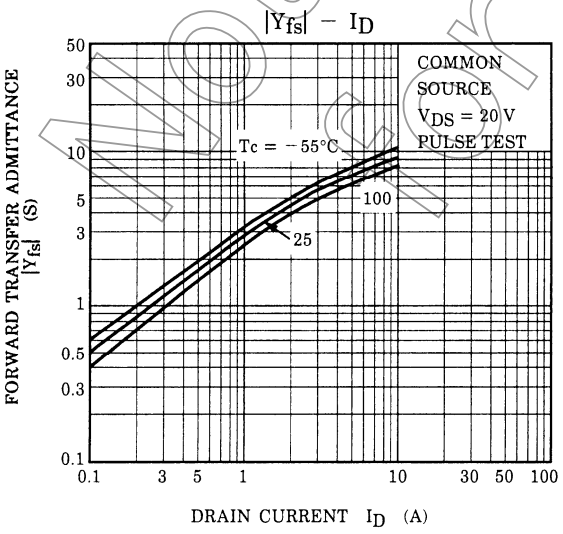
$I_D - V_{GS}$



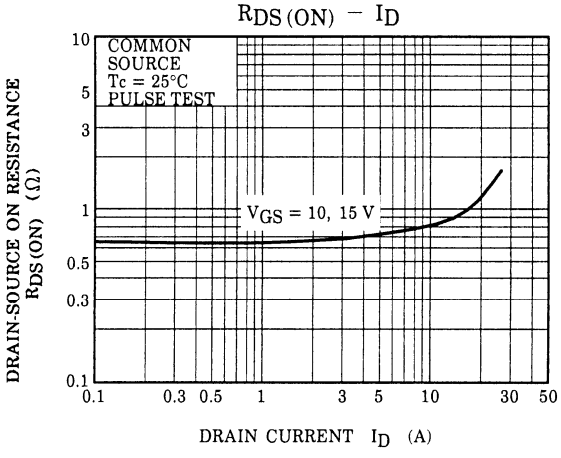
$V_{DS} - V_{GS}$



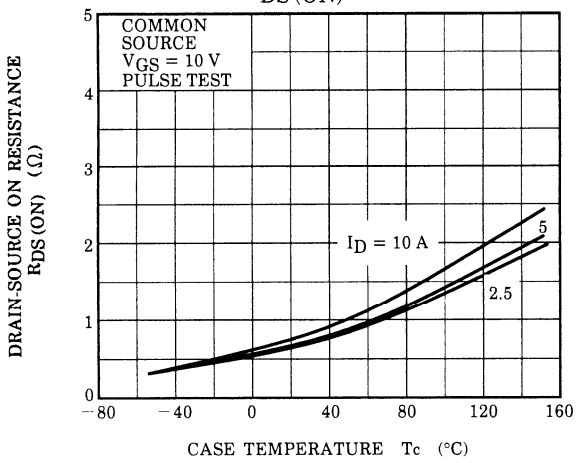
$|Y_{fs}| - I_D$



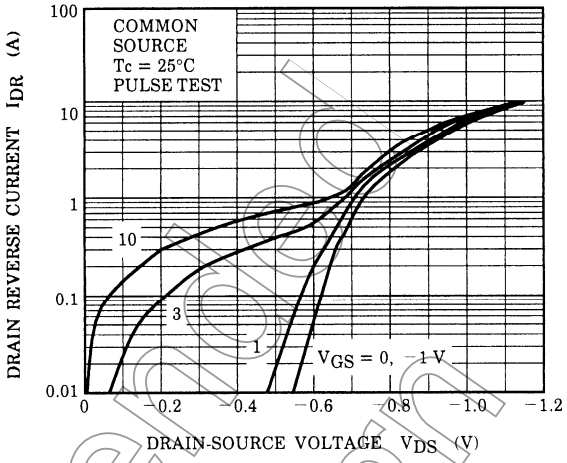
$R_{DS\,(ON)} - I_D$



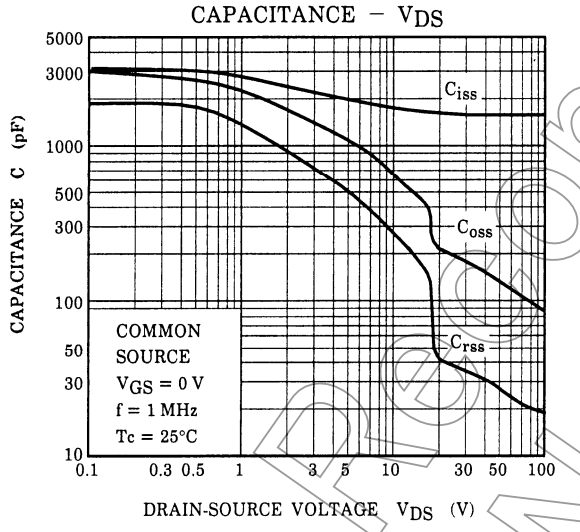
$R_{DS\,(ON)}$ – Tc



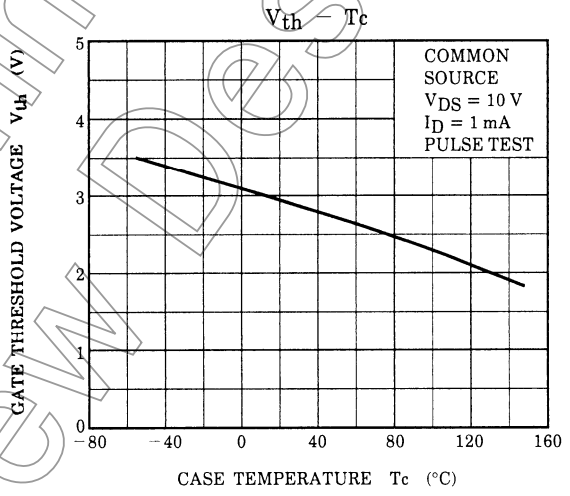
I_{DR} – V_{DS}



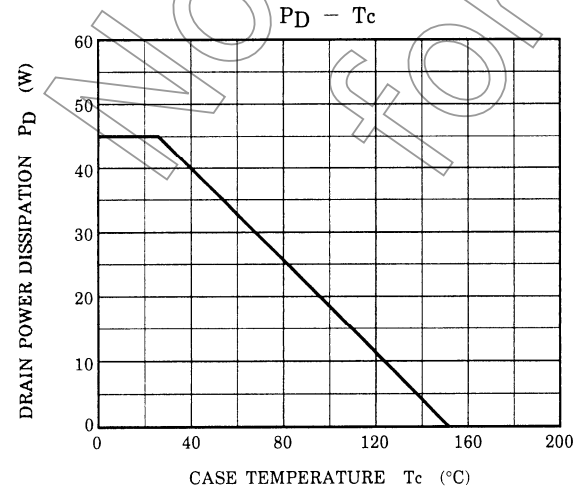
CAPACITANCE – V_{DS}



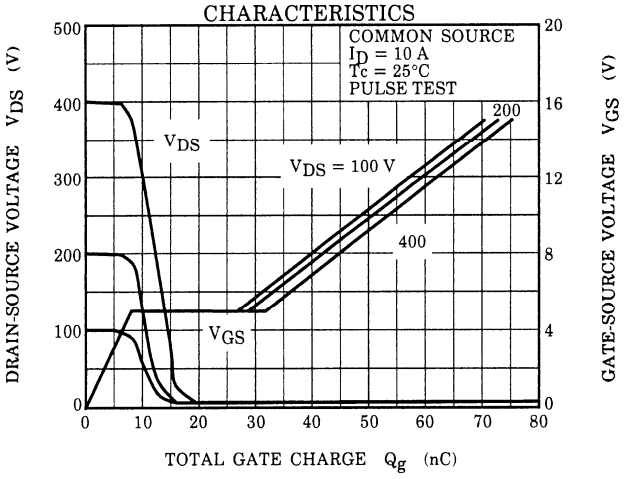
V_{th} – Tc

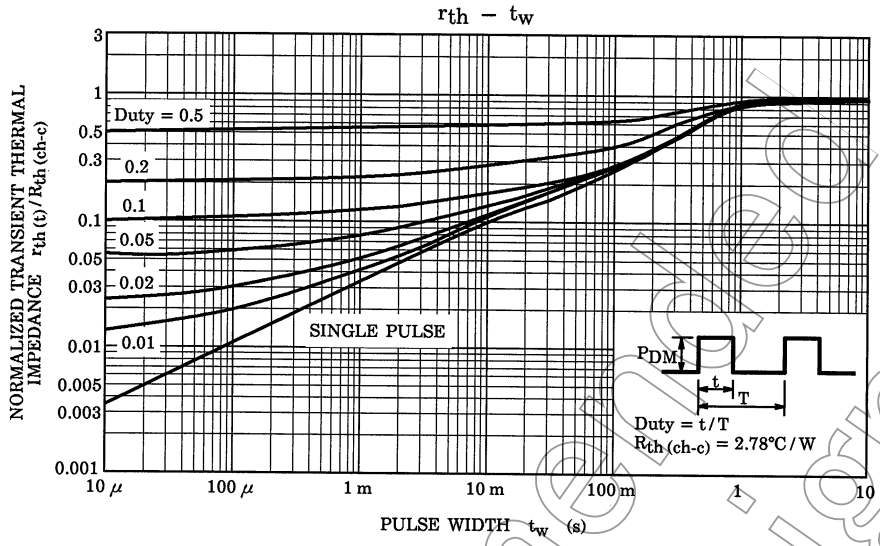


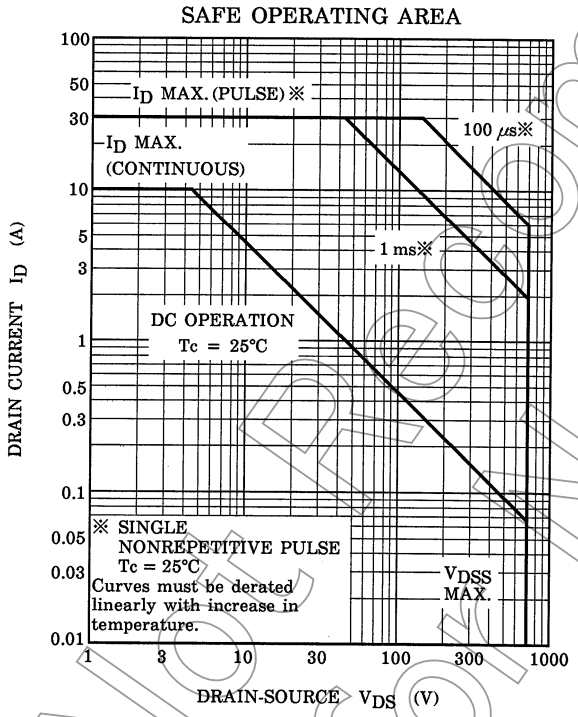
P_D – Tc

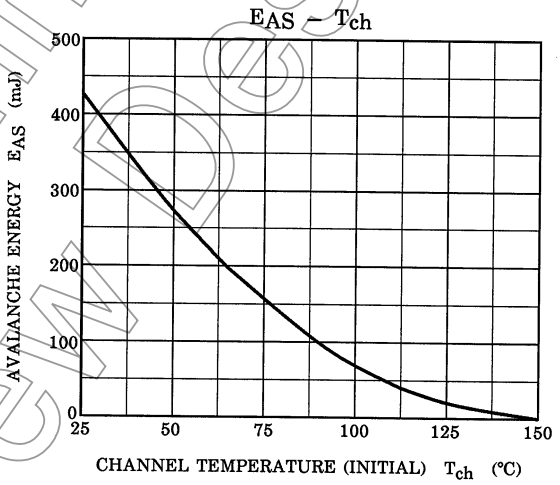


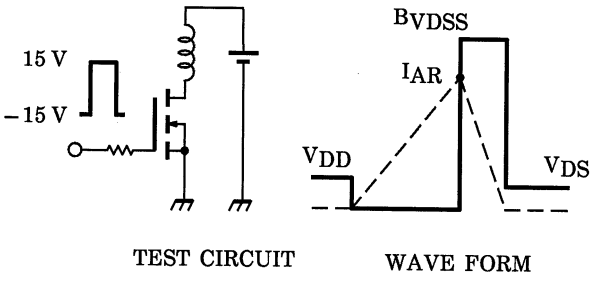
DYNAMIC INPUT / OUTPUT CHARACTERISTICS











$R_G = 25\ \Omega$
$V_{DD} = 90$ V, L = 7.5 mH

$$E_{AS} = \frac{1}{2} \cdot L \cdot I^2 \cdot \left(\frac{B_{VDSS}}{B_{VDSS} - V_{DD}} \right)$$

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