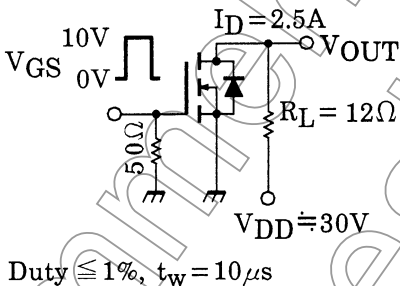


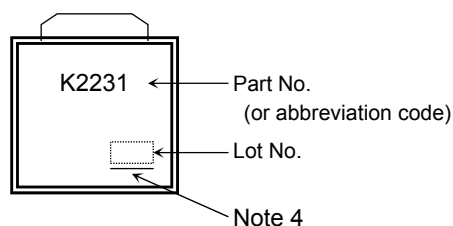
## Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		$I_{GSS}$	$V_{GS} = \pm 16\text{ V}$ , $V_{DS} = 0\text{ V}$	—	—	$\pm 10$	$\mu\text{A}$
Drain cutoff current		$I_{DSS}$	$V_{DS} = 60\text{ V}$ , $V_{GS} = 0\text{ V}$	—	—	100	$\mu\text{A}$
Drain-source breakdown voltage		$V_{(BR)DSS}$	$I_D = 10\text{ mA}$ , $V_{GS} = 0\text{ V}$	60	—	—	V
Gate threshold voltage		$V_{th}$	$V_{DS} = 10\text{ V}$ , $I_D = 1\text{ mA}$	0.8	—	2.0	V
Drain-source ON-resistance		$R_{DS(ON)}$	$V_{GS} = 4\text{ V}$ , $I_D = 1.3\text{ A}$	—	0.20	0.30	$\Omega$
			$V_{GS} = 10\text{ V}$ , $I_D = 2.5\text{ A}$	—	0.12	0.16	
Forward transfer admittance		$ Y_{fs} $	$V_{DS} = 10\text{ V}$ , $I_D = 2.5\text{ A}$	3.0	5.0	—	S
Input capacitance		$C_{iss}$	$V_{DS} = 10\text{ V}$ , $V_{GS} = 0\text{ V}$ , $f = 1\text{ MHz}$	—	370	—	pF
Reverse transfer capacitance		$C_{rss}$		—	60	—	
Output capacitance		$C_{oss}$		—	180	—	
Switching time	Rise time	$t_r$		—	18	—	ns
	Turn-on time	$t_{on}$		—	25	—	
	Fall time	$t_f$		—	55	—	
	Turn-off time	$t_{off}$		—	170	—	
Total gate charge (gate-source plus gate-drain)		$Q_g$	$V_{DD} \approx 48\text{ V}$ , $V_{GS} = 10\text{ V}$ , $I_D = 5\text{ A}$	—	12	—	nC
Gate-source charge		$Q_{gs}$		—	8	—	
Gate-drain ("Miller") charge		$Q_{gd}$		—	4	—	

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

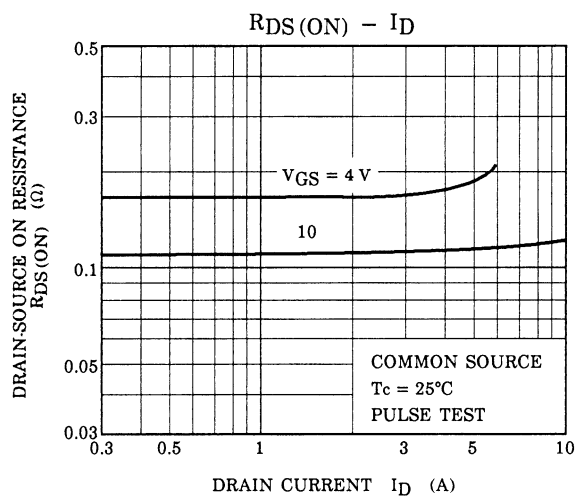
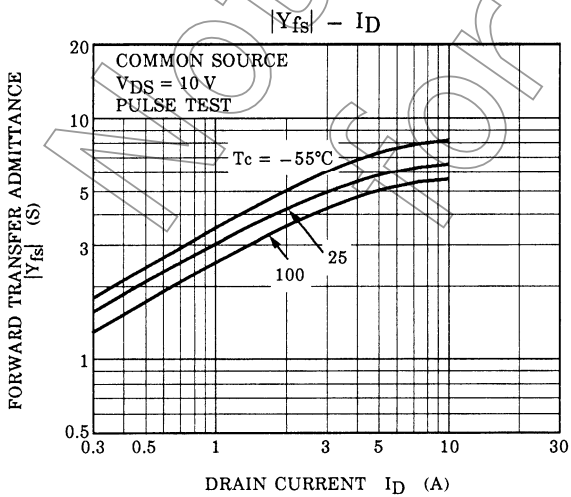
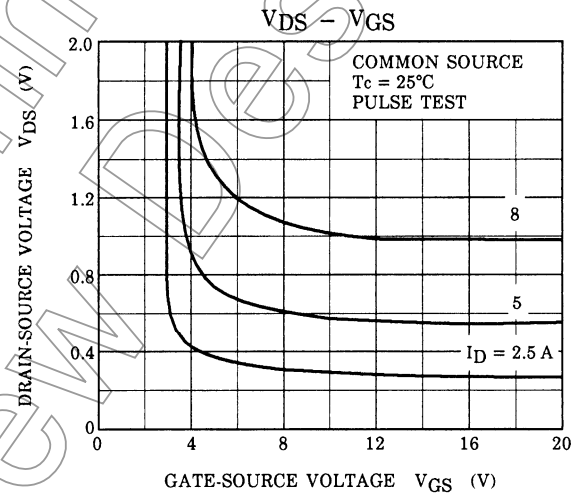
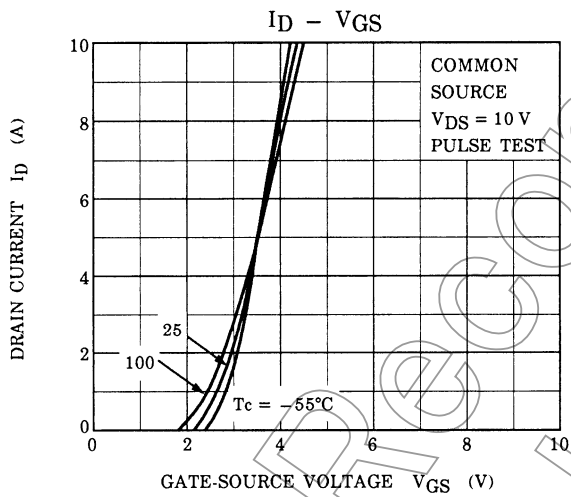
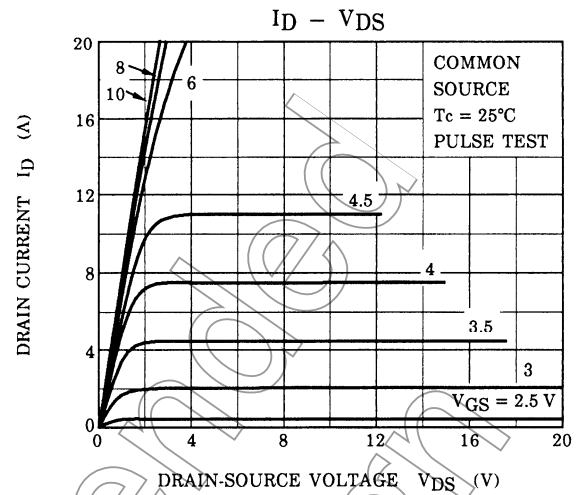
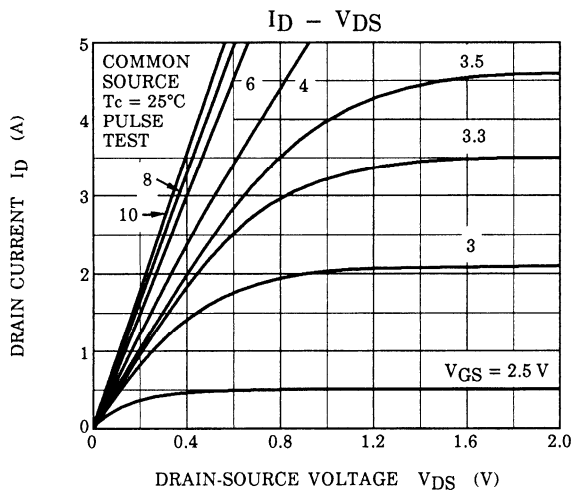
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Continuous drain reverse current (Note 1)	$I_{DR}$	—	—	—	5	A
Pulse drain reverse current (Note 1)	$I_{DRP}$	—	—	—	20	A
Forward voltage (diode)	$V_{DSF}$	$I_{DR} = 5\text{ A}$ , $V_{GS} = 0\text{ V}$	—	—	-1.7	V
Reverse recovery time	$t_{rr}$	$I_{DR} = 5\text{ A}$ , $V_{GS} = 0\text{ V}$ , $dI_{DR}/dt = 50\text{ A}/\mu\text{s}$	—	70	—	ns
Reverse recovery charge	$Q_{rr}$		—	0.1	—	$\mu\text{C}$

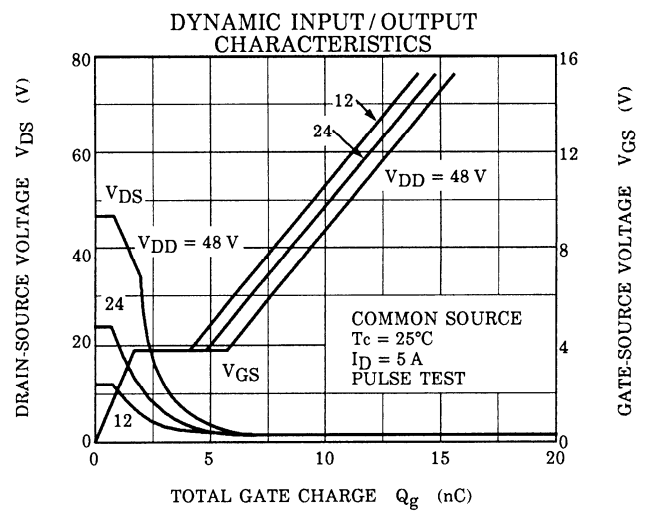
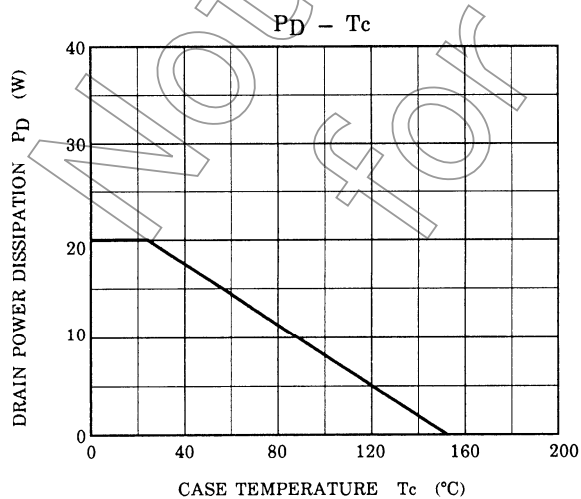
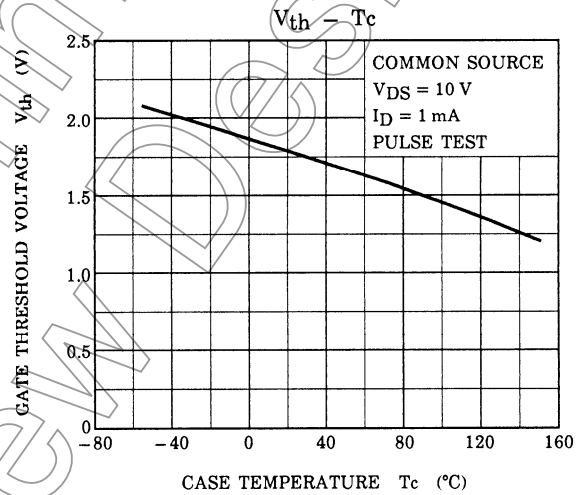
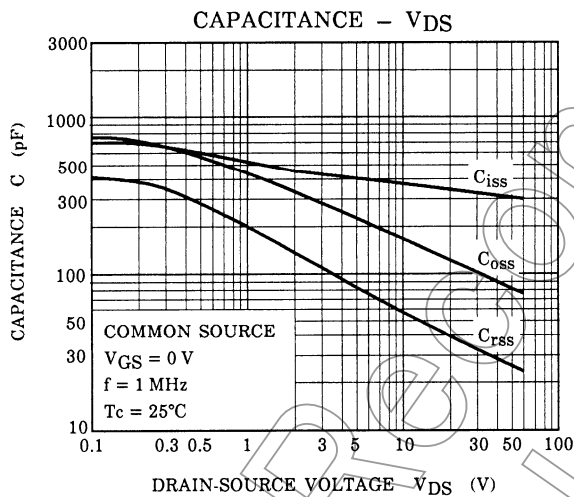
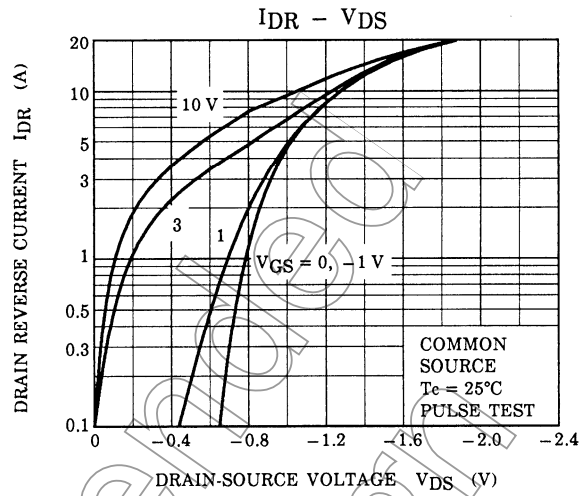
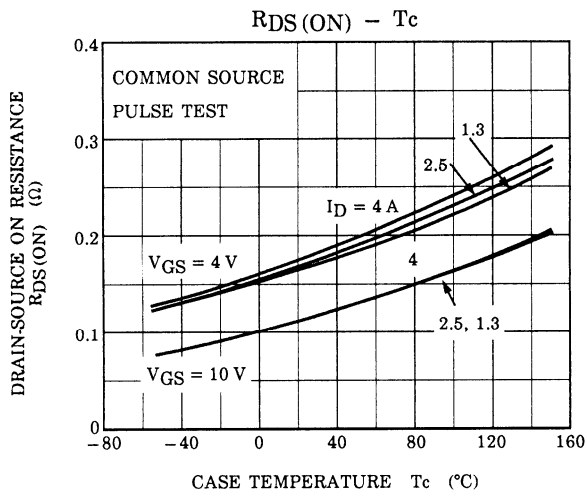
## Marking

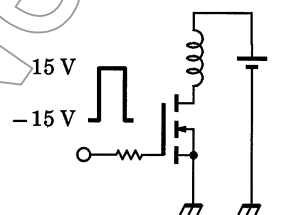
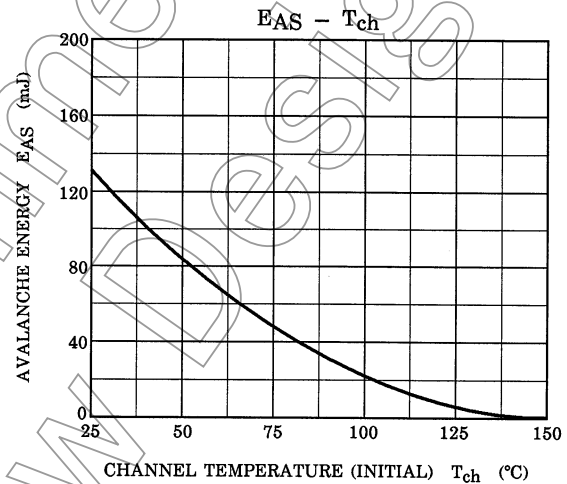
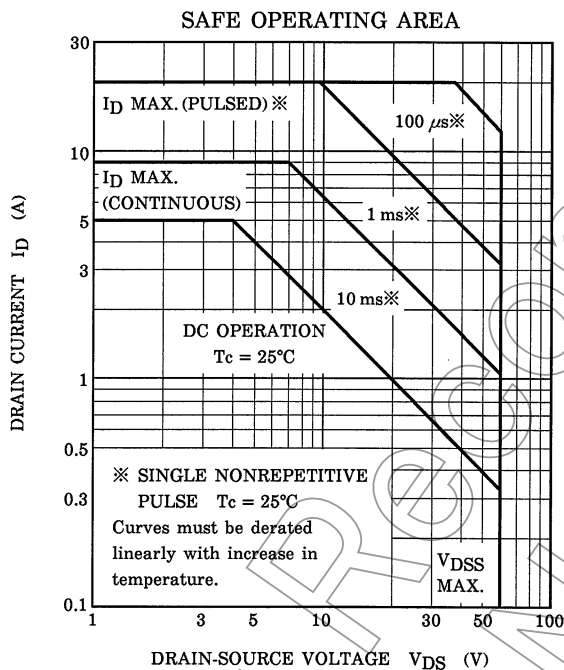
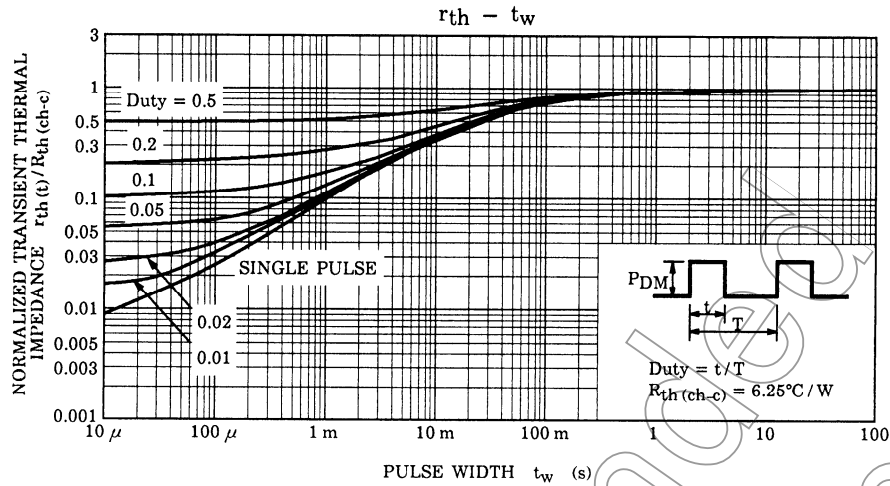


Note 4 : A line under a Lot No. identifies the indication of product Labels  
[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

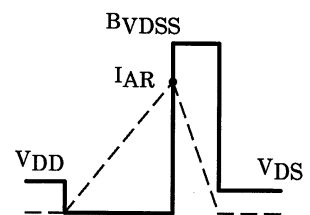
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TEST CIRCUIT



WAVE FORM

$$R_G = 25 \, \Omega$$

$$V_{DD} = 25 \, \text{V}, L = 7 \, \text{mH}$$

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

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