

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16674 D

T-35-25



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2SK422

SILICON N CHANNEL MOS TYPE

(π-MOS)

INDUSTRIAL APPLICATIONS

Unit in mm

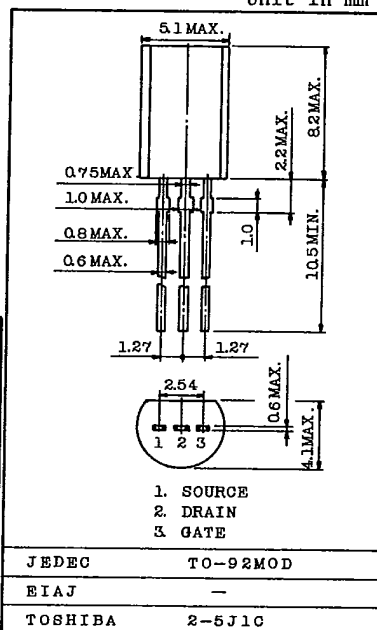
HIGH SPEED SWITCHING APPLICATIONS.
DC-DC CONVERTER AND INTERFACE APPLICATIONS.

FEATURES:

- Excellent Switching Times : $t_{off}=12\text{ns}$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=220\text{mS}$ (Typ.)
@ $I_D=0.5\text{A}$
- Low Leakage Current : $I_{GSS}=\pm 100\text{nA}$ (Max.) @ $V_{GS}=\pm 20\text{V}$
 $I_{DSS}=1\text{mA}$ (Max.) @ $V_{DS}=60\text{V}$
- Enhancement-Mode : $V_{th}=1.5\sim 3.5\text{V}$ @ $I_D=1\text{mA}$

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSX}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	DC	I_D	0.7
	Pulse	I_{DP}	1.0
Drain Power Dissipation ($T_a=25^\circ\text{C}$)	P_D	900	mW
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55\sim 150$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0$	-	-	± 100	nA	
Drain Cut-off Current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0$	-	-	1.0	mA	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=10\text{mA}$, $V_{GS}=0$	60	-	-	V	
Gate Threshold Voltage	V_{th}	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.5	-	3.5	V	
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=0.5\text{A}$	80	220	-	nS	
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D=0.5\text{A}$, $V_{GS}=10\text{V}$	-	1.4	2.8	Ω	
Drain-Source ON Voltage	$V_{DS(ON)}$	$I_D=1\text{A}$, $V_{GS}=10\text{V}$	-	2	4	V	
Input Capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	-	45	70	pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	-	20	35	pF	
Output Capacitance	C_{oss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	-	60	100	pF	
Switching Time	Rise Time	t_r		-	11	20	ns
	Turn-on Time	t_{on}		-	17	35	
	Fall Time	t_f		-	6	10	
	Turn-off Time	t_{off}		-	12	25	

THIS TRANSISTOR IS THE ELECTROSTATIC SENSITIVE DEVICE. PLEASE HANDLE WITH CAUTION.

TOSHIBA CORPORATION

GT1A2

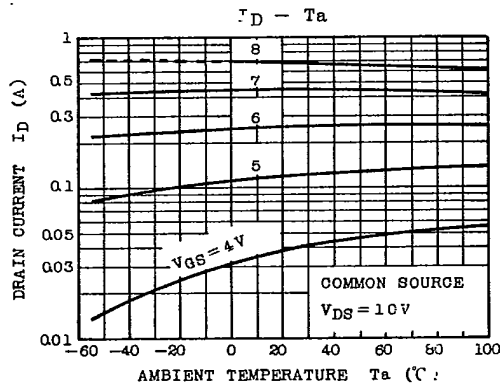
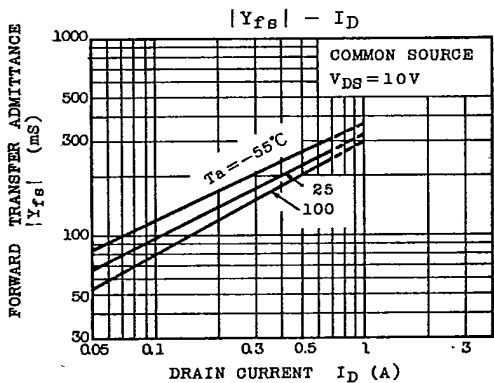
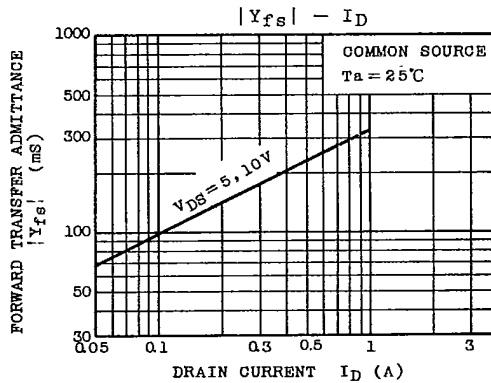
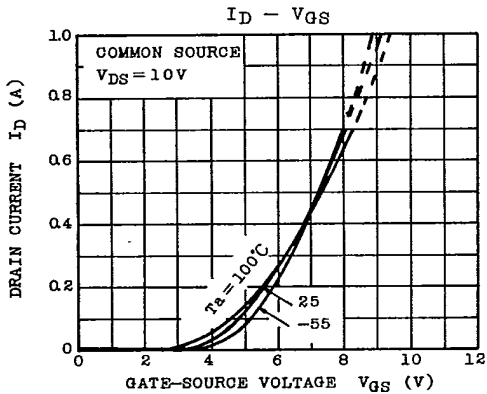
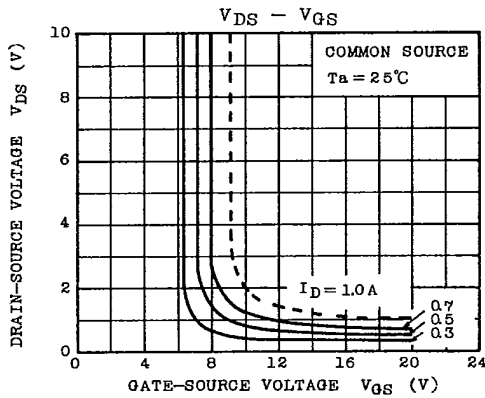
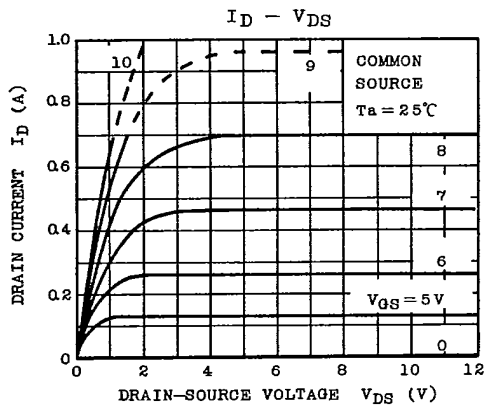
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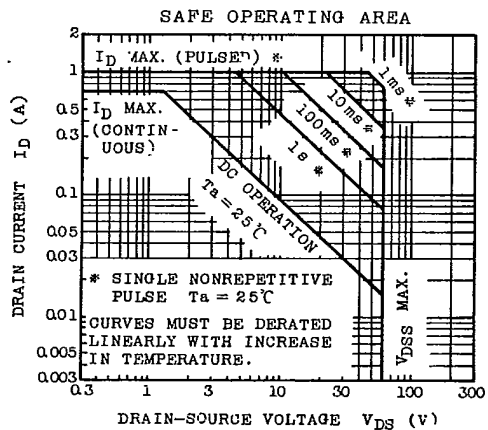
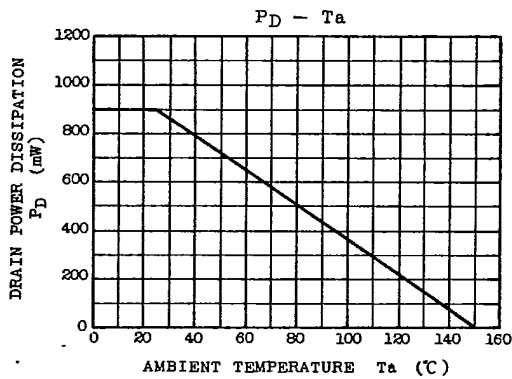
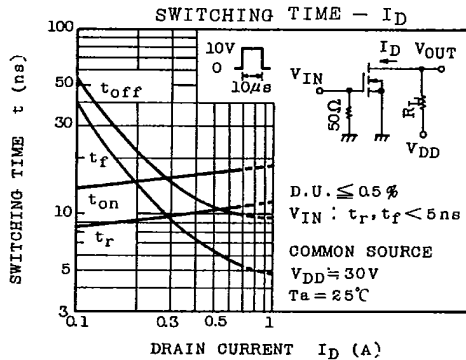
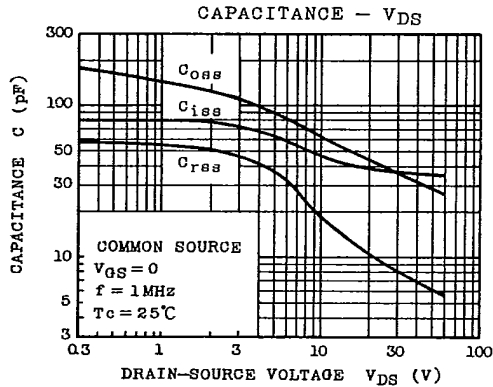
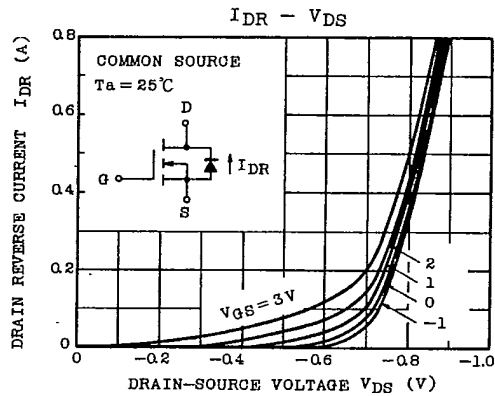
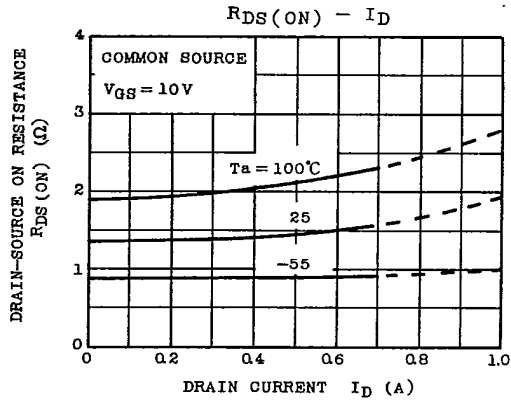
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