

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16698 DT-39-09



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2 S K 5 2 9

SILICON N CHANNEL MOS TYPE
(π -MOS)

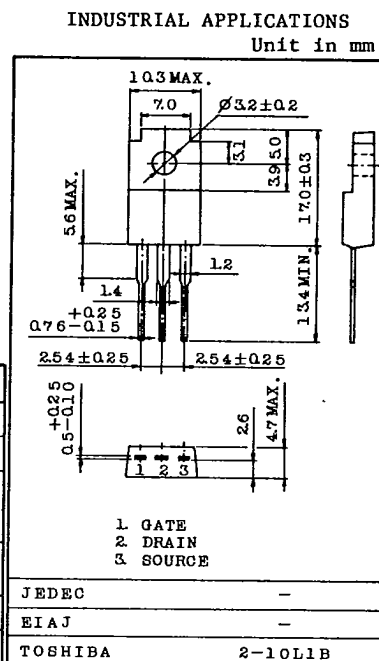
HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

FEATURES:

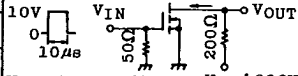
- High Breakdown Voltage : $V_{(BR)DSS}=450V$
- High Forward Transfer Admittance : $|Y_{fs}|=1.2S(Typ.)$
- Low Leakage Current : $I_{GSS}=\pm 100nA(Max.)$ @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA(Max.)$ @ $V_{DS}=450V$
- Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$
- TO-220 Isolation Package Which Requires Neither Insulating Bushing Nor Mica Insulator.

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	450	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	2	A
	Pulse	I_{DP}	4	
Drain Power Dissipation ($T_c=25^\circ\text{C}$)		P_D	30	W
Channel Temperature		T_{ch}	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

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

Weight : 2.1g

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$	-	-	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS}=450V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	450	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=1A$	0.6	1.2	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=1A, V_{GS}=10V$	-	1.8	2.6	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=4A, V_{GS}=10V$	-	9.0	15	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	410	600	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	35	70	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	115	170	pF
Switching Time	Rise Time	t_r	 V_{IN} $I_D=1A$ V_{OUT} $V_{DD}=200V$ $Z_{OUT}=50\Omega$	-	20	40	ns
	Turn-on Time	t_{on}		-	30	60	ns
	Fall Time	t_f		-	35	70	ns
	Turn-off Time	t_{off}		-	100	200	ns

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

TOSHIBA CORPORATION

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99D 16699

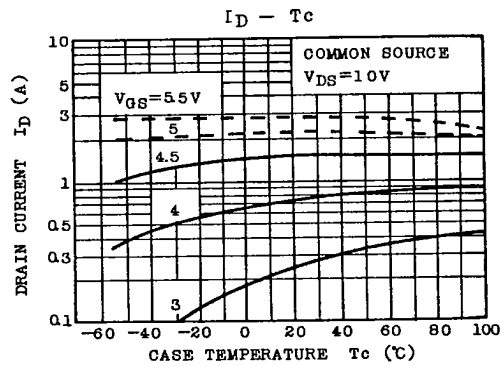
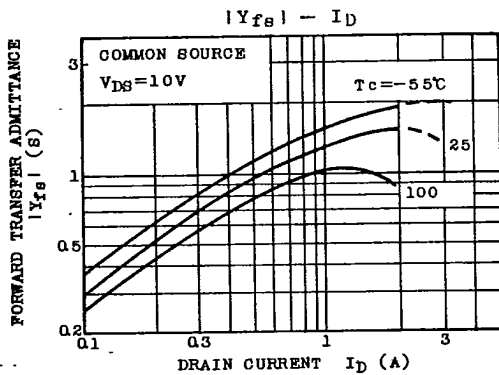
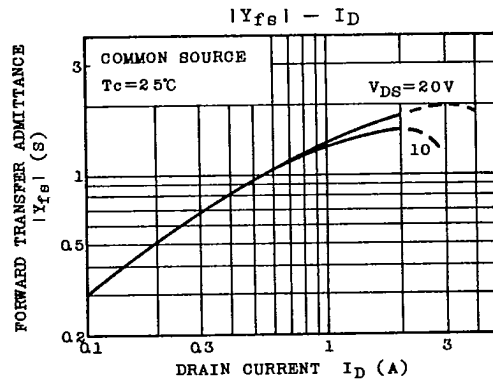
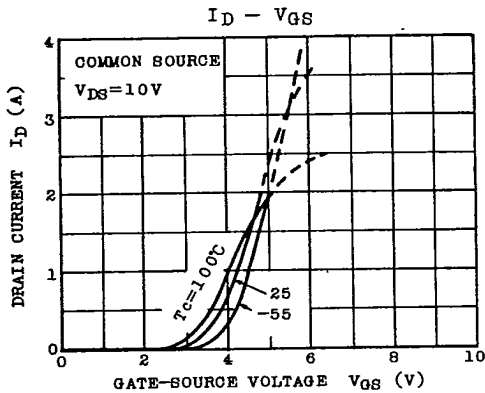
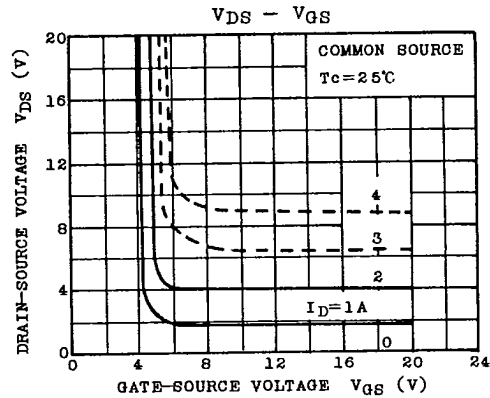
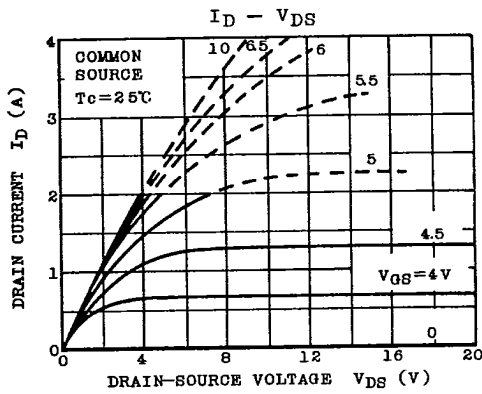
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SEMICONDUCTOR

TECHNICAL DATA

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