

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16644 DT-39-13



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2 S K 3 2 5

SILICON N CHANNEL MOS TYPE

(π -MOS)

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.

SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

FEATURES:

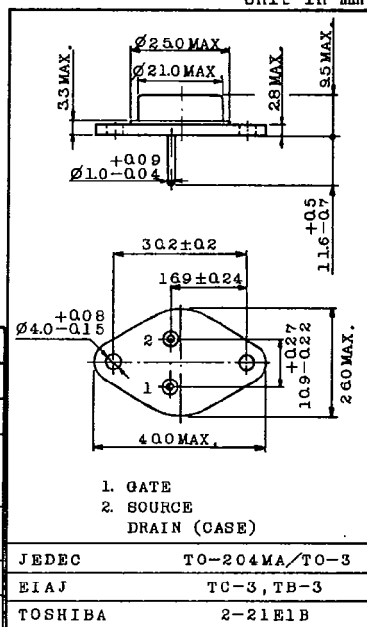
- . High Breakdown Voltage : $V_{(BR)DS}=450V$
- . High Forward Transfer Admittance : $|Y_{fs}|=5S(Typ.)$
- . Low Leakage Current : $I_{GSS}=\pm 100nA(Max.)$ @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA(Max.)$ @ $V_{DS}=450V$
- . Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$

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	10	A
	Pulse	I_{DP}	15	
Drain Power Dissipation ($T_c=25^\circ\text{C}$)		P_D	120	W
Channel Temperature		T_{ch}	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-65 \sim 150$	$^\circ\text{C}$

INDUSTRIAL APPLICATIONS

Unit in mm



Weight : 15.8g

ELECTRICAL CHARACTERISTICS (Ta=25°C)

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} $	$V_{DS}=10V, I_D=5A$	3.0	5.0	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=5A, V_{GS}=10V$	-	0.5	0.7	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=10A, V_{GS}=10V$	-	5.5	8	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	1500	2000	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	140	300	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	400	600	pF
Switching Time	Rise Time	t_r	$I_D=5A$ V_{IN} $50\mu H$ 40Ω V_{OUT} $V_{IN}: t_r, t_f < 5ns$ $V_{DD}=200V$ $D, U \leq 1\%$ ($Z_{OUT}=50\Omega$)	-	50	100	ns
	Turn-on Time	t_{on}		-	80	150	ns
	Fall Time	t_f		-	80	150	ns
	Turn-off Time	t_{off}		-	350	700	ns

TOSHIBA CORPORATION

GT1A2

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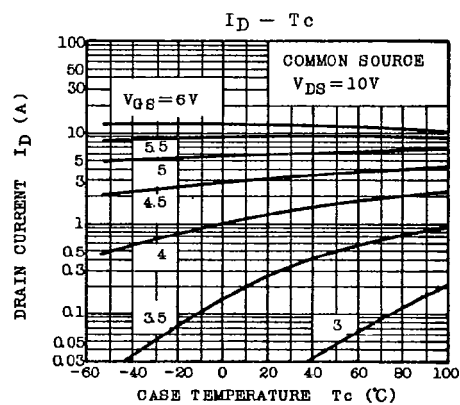
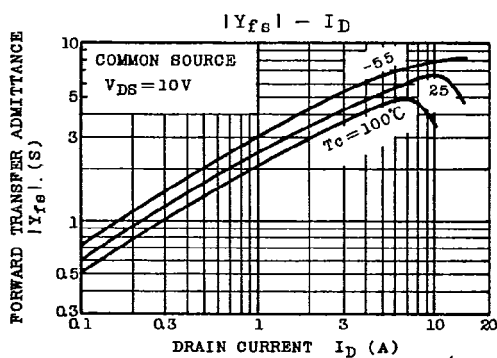
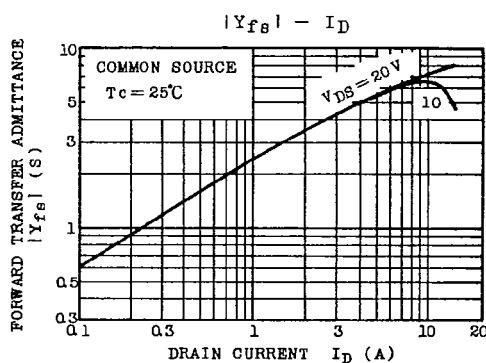
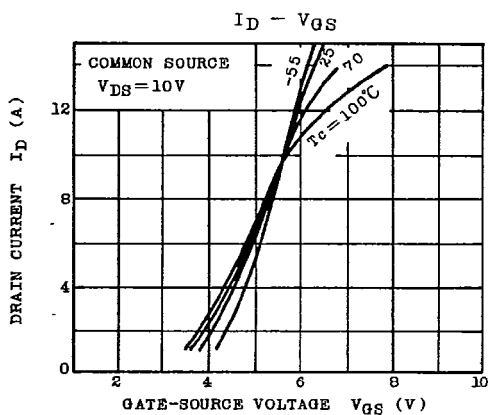
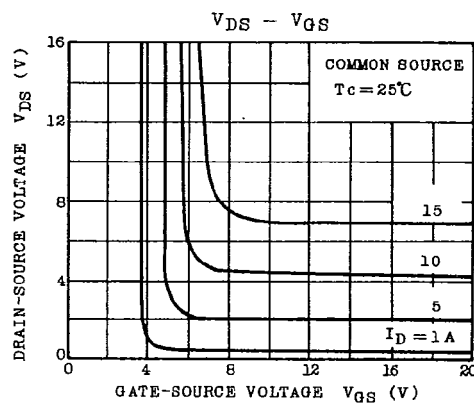
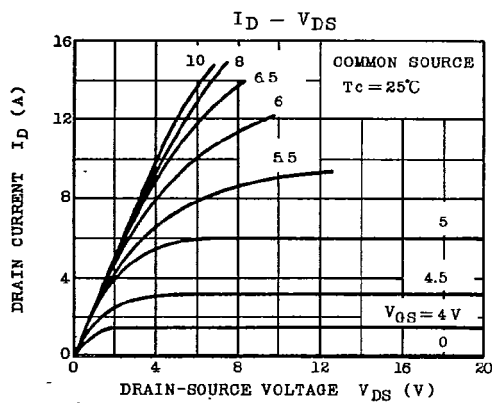
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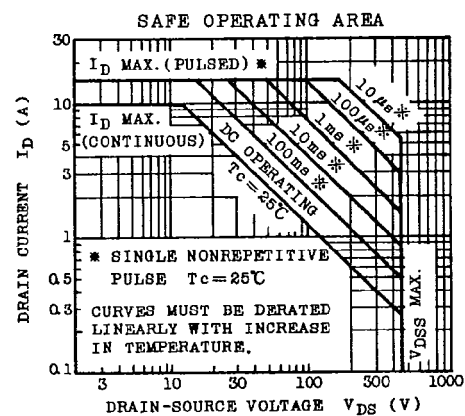
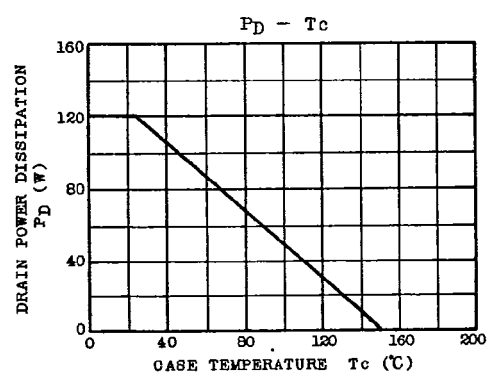
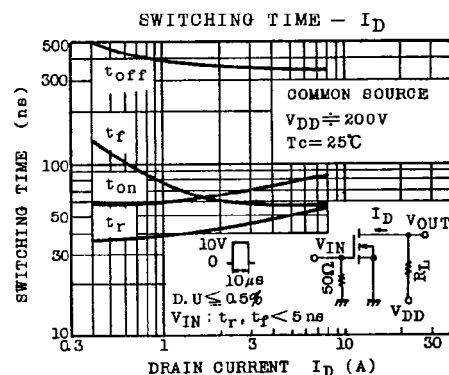
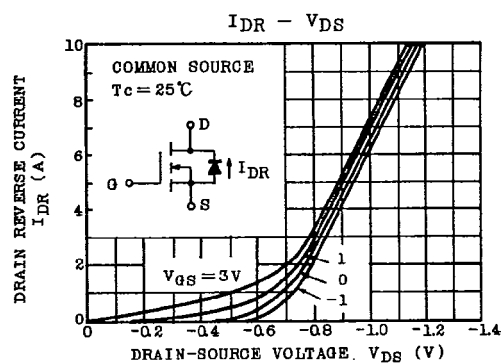
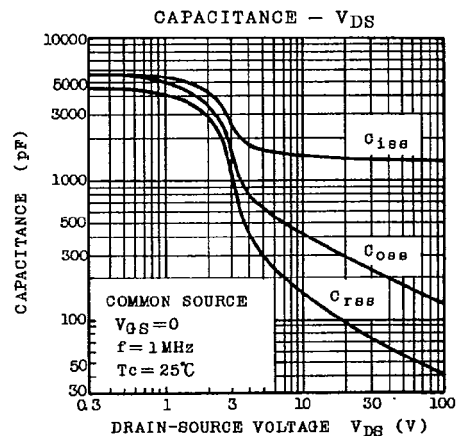
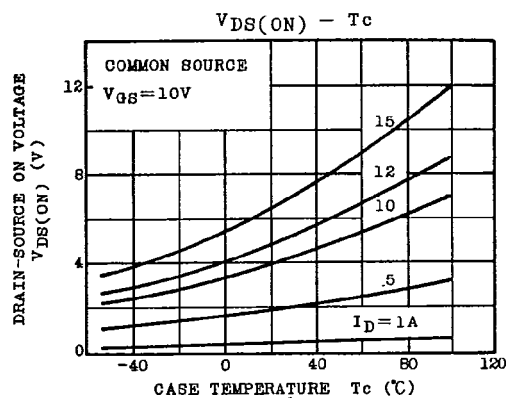
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