

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16635 D

T-39-19



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2SJ123

SILICON P CHANNEL MOS TYPE

HIGH SPEED SWITCHING APPLICATION.

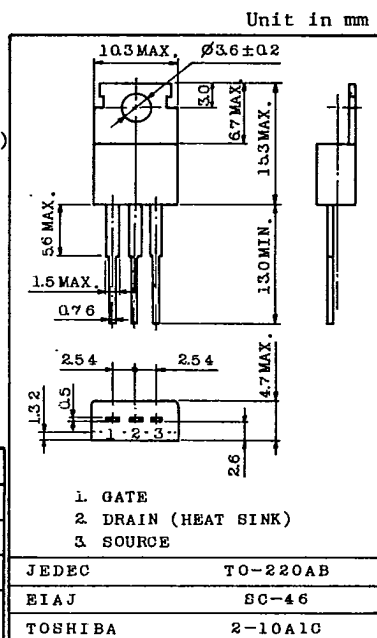
DC-DC CONVERTER APPLICATION.

FEATURES:

- Low Drain-Source Saturation Voltage : $V_{DS(ON)}=1.4V(Typ.)$
- High Forward Transfer Admittance : $|Y_{fs}|=1.7S(Typ.)$
- Complementary to 2SK442.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSS}	-70	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	-10	A
Drain Power Dissipation ($T_c=25^{\circ}C$)	P_D	30	W
Channel Temperature	T_{ch}	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^{\circ}C$



Weight : 1.9g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{DS}=0, V_{GS}=\pm 20V$	-	-	± 1.0	μA
Drain Cut-off Current	I_{DSS}	$V_{DS}=-70V, V_{GS}=0$	-	-	-1.0	mA
Drain-Source Breakdown Voltage	$V(BR)_{DSS}$	$I_D=-1mA, V_{GS}=0$	-70	-	-	V
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS}=-5V, I_D=-1mA$	-1.0	-	-3.0	V
Drain-Source Saturation Voltage	$V_{DS(ON)}$	$I_D=-7A, V_{GS}=-15V$	-	-1.4	-2.8	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=-5V, I_D=-2A$	1.0	1.7	-	S
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	650	-	pF
Output Capacitance	C_{oss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	600	-	pF
Reverse Transfer Capacitance	C_{rs}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	250	-	pF

TOSHIBA CORPORATION

GT1A2

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9097250 TOSHIBA (DISCRETE/OPTO)

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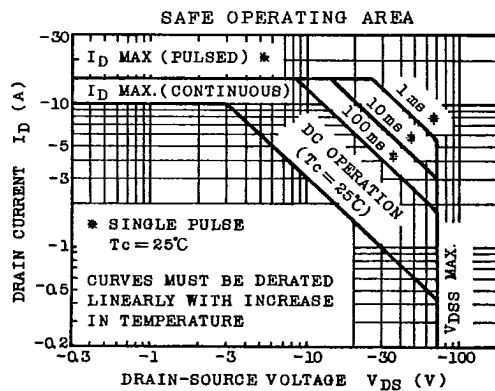
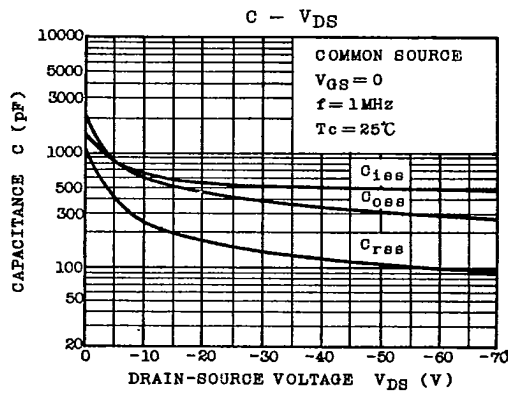
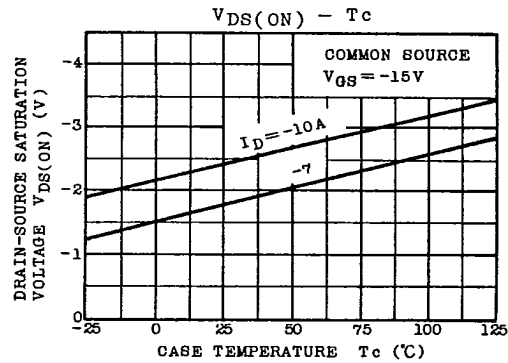
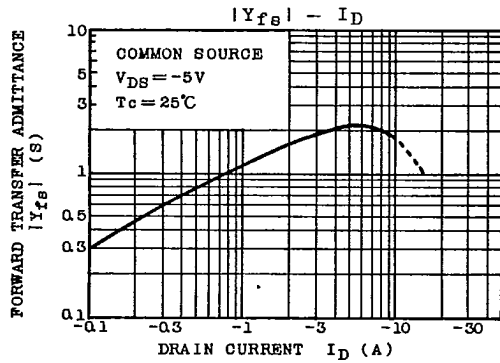
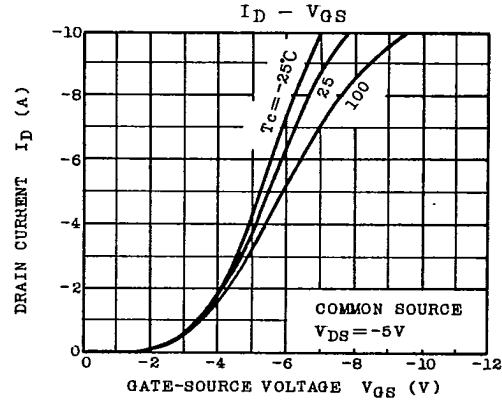
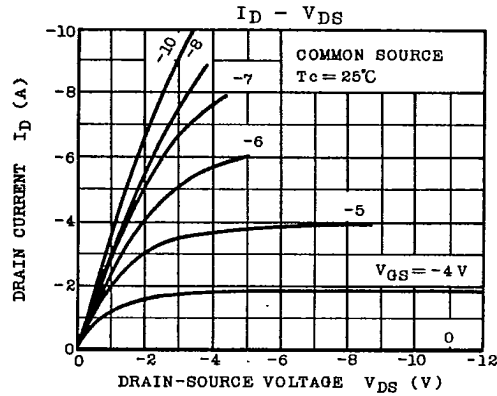
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SEMICONDUCTOR

TECHNICAL DATA

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TOSHIBA CORPORATION

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9097250 TOSHIBA (DISCRETE/OPTO)

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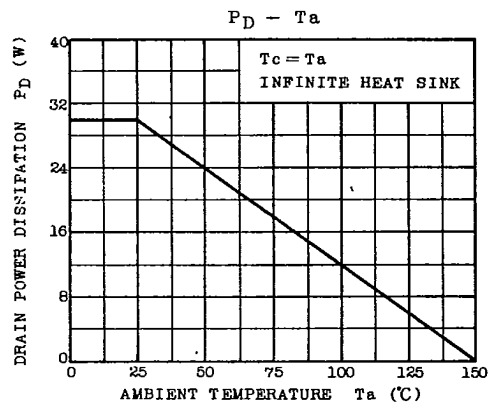
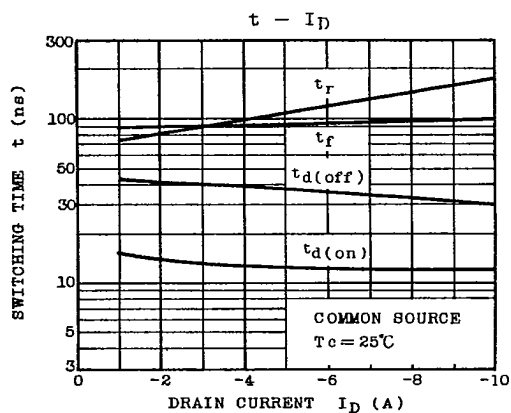
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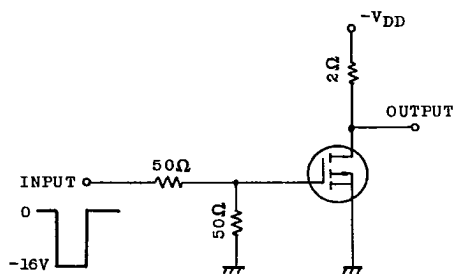
SEMICONDUCTOR

TECHNICAL DATA

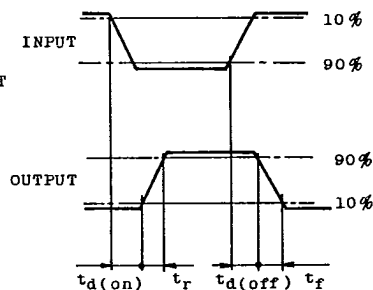
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SWITCHING TIME TEST CIRCUIT



RESPONSE WAVE FORM



TOSHIBA CORPORATION

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SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2SJ126

SILICON P CHANNEL MOS TYPE
(π -MOS)

INDUSTRIAL APPLICATIONS

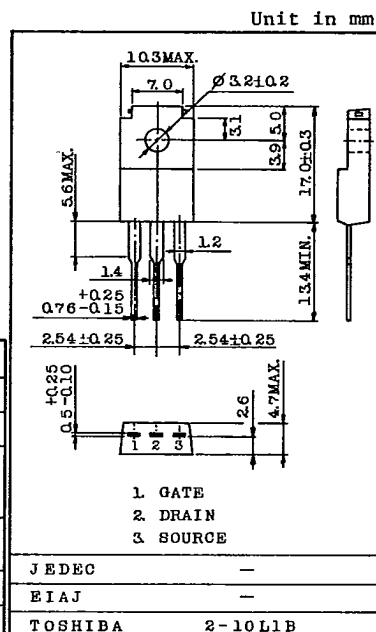
HIGH SPEED SWITCHING APPLICATIONS.
SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

FEATURES:

- Low Drain-Source ON Resistance : $R_{DS(ON)}=0.27\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=2.5S$ (Typ.)
- Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) ($V_{GS}=\pm 20V$)
 $I_{DSS}=-1mA$ (Max.) ($V_{DS}=-60V$)
- 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 ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	-60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	-10	A
	Pulse	I_{DP}	-15	
Drain Power Dissipation ($T_c=25^\circ C$)		P_D	40	W
Channel Temperature		T_{ch}	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^\circ C$

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

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}	$V_{DS}=-60V, V_{GS}=0$	-	-	-1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=-10mA, V_{GS}=0$	-60	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=-10V, I_D=-1mA$	-1.5	-	-3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=-10V, I_D=-5A$	1.5	-2.5	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=-5A, V_{GS}=-10V$	-	0.27	0.4	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=-10A, V_{GS}=-10V$	-	-3.0	-4.5	V
Input Capacitance		C_{iss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	880	1200	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	280	600	pF
Output Capacitance		C_{oss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$	-	670	1000	pF
Switching Time	Rise Time	t_r		-	70	140	ns
	Turn-on Time	t_{on}		-	80	160	ns
	Fall Time	t_f		-	60	120	ns
	Turn-off Time	t_{off}		-	120	240	ns

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

TOSHIBA CORPORATION

GT1A2

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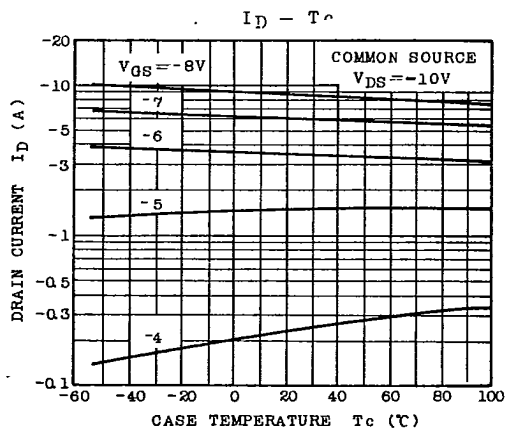
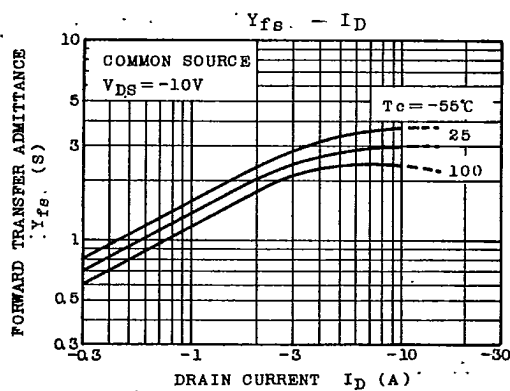
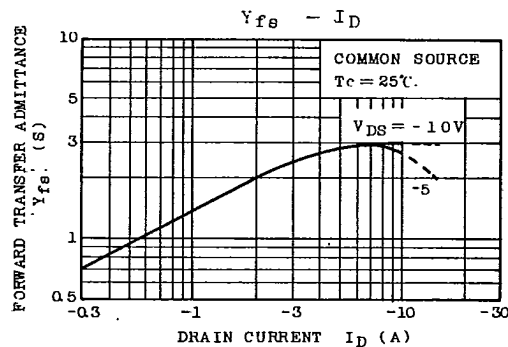
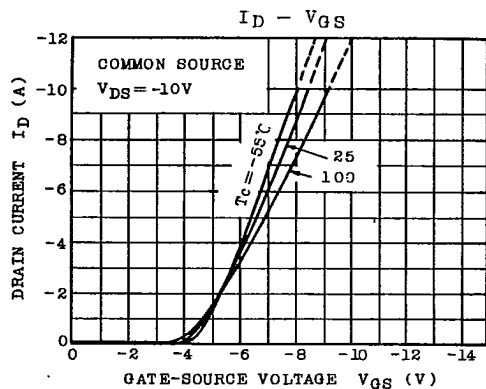
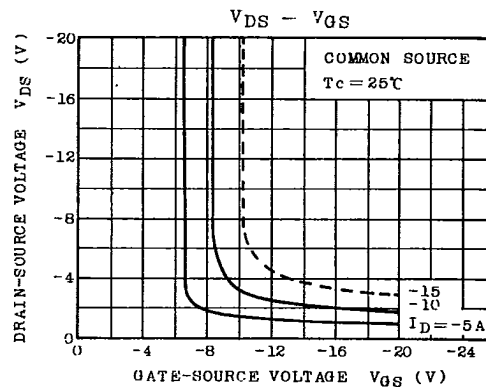
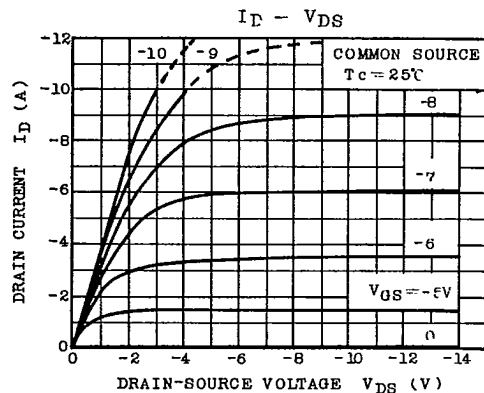
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TOSHIBA CORPORATION

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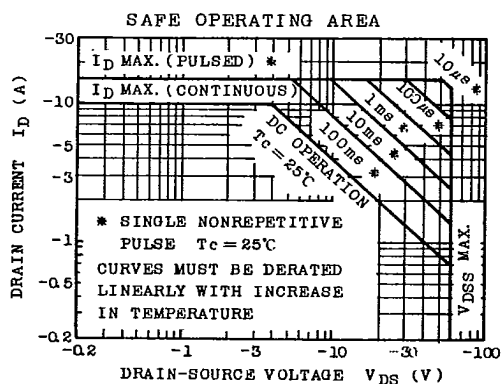
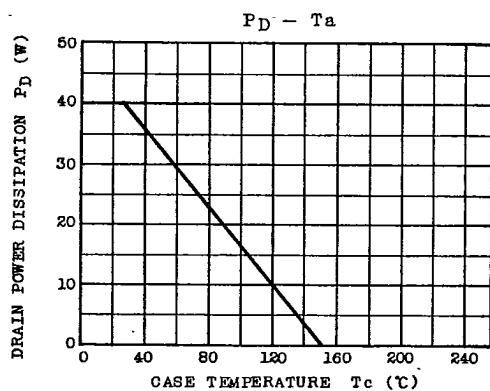
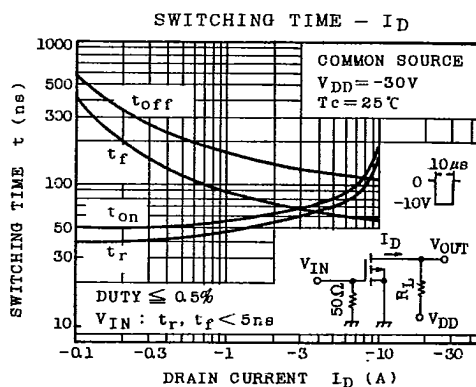
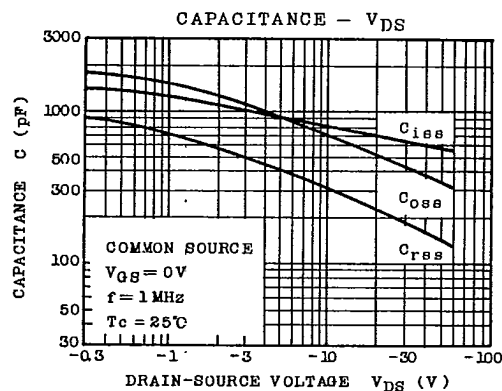
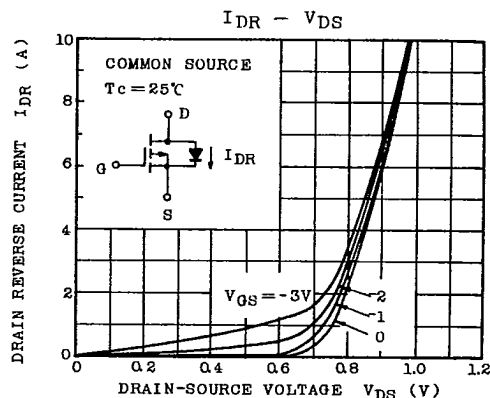
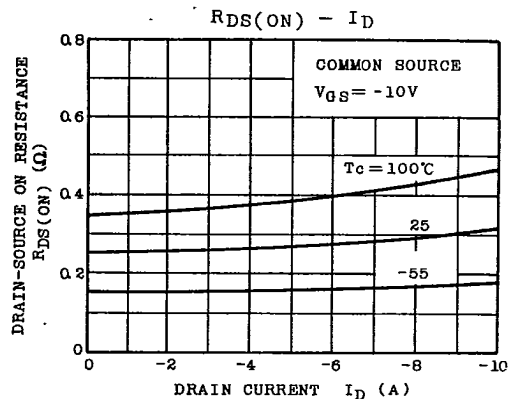
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SEMICONDUCTOR

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TOSHIBA CORPORATION

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