

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16656 DT-39-11



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR

2 S K 3 5 8

SILICON N CHANNEL MOS TYPE
(π -MOS)

INDUSTRIAL APPLICATIONS

Unit in mm

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.

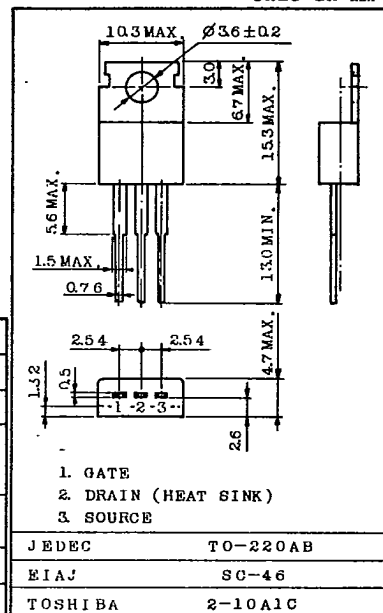
DC-DC CONVERTER, MOTOR AND SOLENOID DRIVE APPLICATIONS.

FEATURES:

- Low Drain-Source ON Resistance : $R_{DS(ON)}=0.7\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=2.3S$ (Typ.)
- High Drain Current : $I_{DP}=8A$ (Max.)
- Low Leakage Current: $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=250V$
- Enhancement-Mode : $V_{th}=1.5\sim 3.5V$ @ $I_D=1mA$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	250	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	5	A
	Pulse	I_{DP}	8	
Drain Power Dissipation ($T_c=25^{\circ}\text{C}$)		P_D	40	W
Channel Temperature		T_{ch}	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^{\circ}\text{C}$



Weight : 1.9g

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}	$V_{DS}=250V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	250	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=3A$	1.0	2.3	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=3A, V_{GS}=10V$	-	0.7	1.0	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=8A, V_{GS}=10V$	-	7.2	12	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	380	500	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	60	120	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	185	300	pF
Switching Time	Rise Time	t_r	$I_D=3A$ V_{IN} V_{OUT} $10\mu s$ $10V$ 50Ω $V_{DD}=150V$ $Z_{OUT}=50\Omega$	-	20	40	ns
	Turn-on Time	t_{on}		-	30	60	
	Fall Time	t_f		-	30	60	
	Turn-off Time	t_{off}		-	80	160	

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

TOSHIBA CORPORATION

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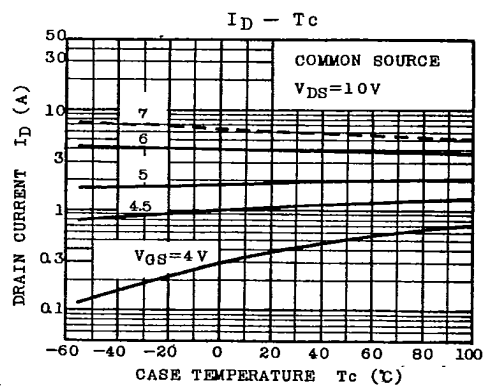
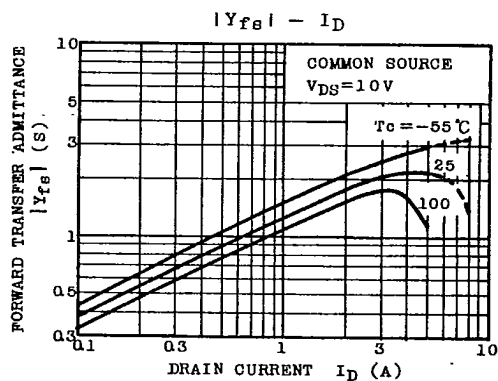
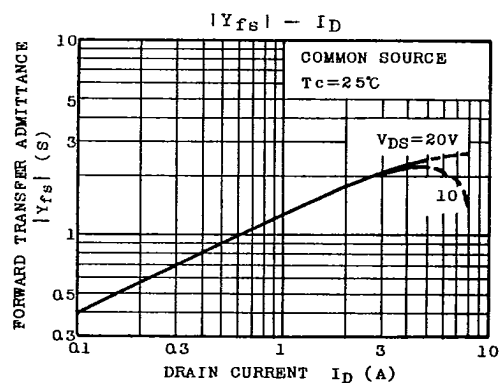
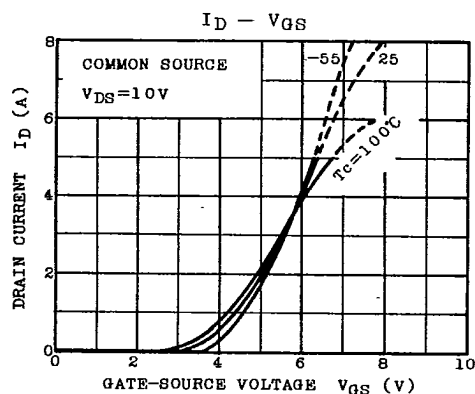
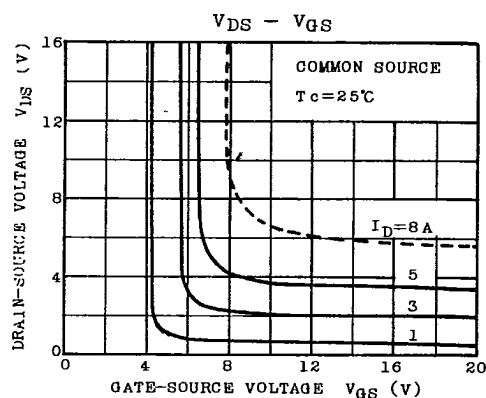
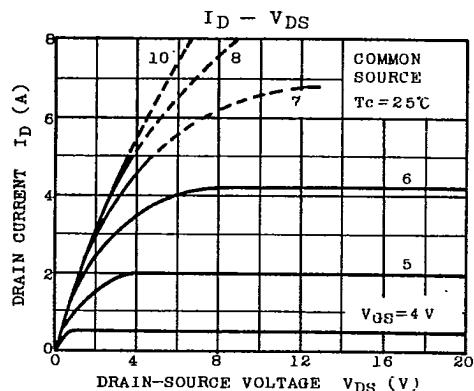
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SEMICONDUCTOR

TECHNICAL DATA

2SK358



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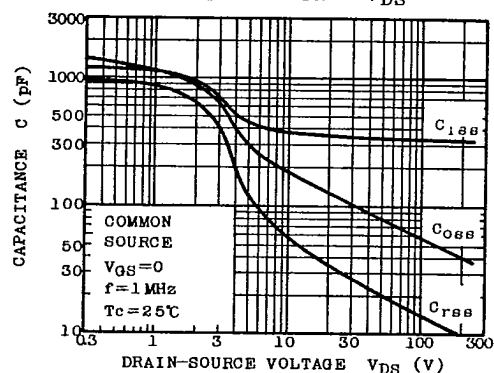
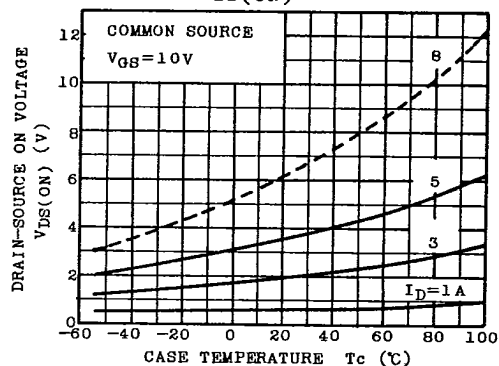
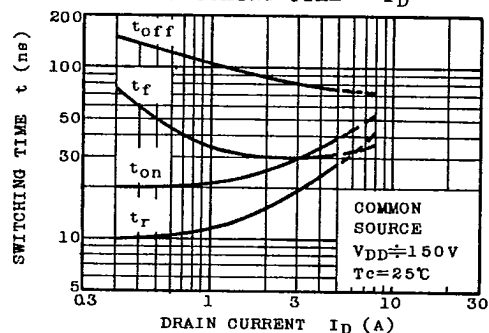
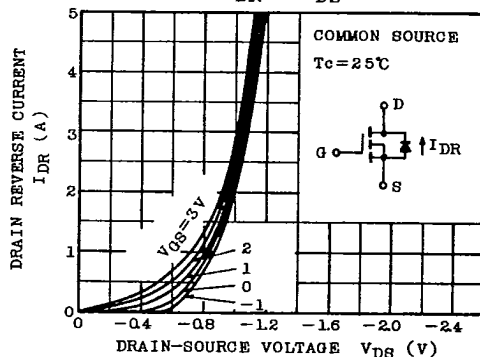
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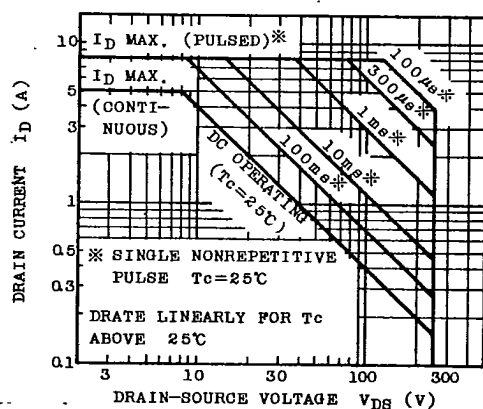
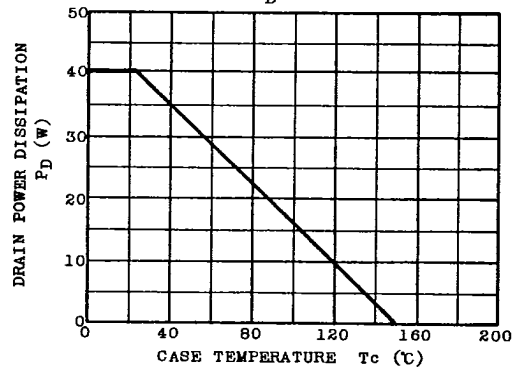
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TECHNICAL DATA

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CAPACITANCE - V_{DS}  $V_{DS(ON)} - T_c$ SWITCHING TIME - I_D  $I_{DR} - V_{DS}$ 

SAFE OPERATING AREA

 $P_D - T_c$ 

TOSHIBA CORPORATION