



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR
2SK537
 SILICON N CHANNEL MOS TYPE

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
 SWITCHING REGULATOR AND MOTOR DRIVE APPLICATIONS.

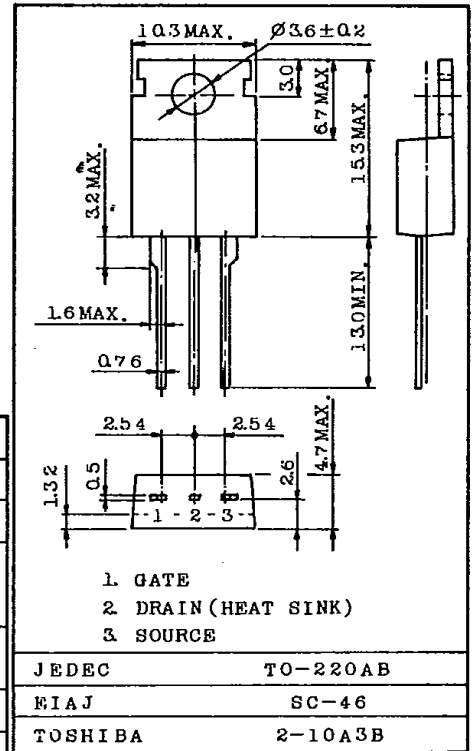
FEATURES:

- High Breakdown Voltage : $V(BR)_{DSS}=900V$
- High Forward Transfer Admittance : $|Y_{fs}|=0.4S(Typ.)$
- Low Leakage Current : $I_{GSS}=\pm 100nA(Max.) @V_{GS}=\pm 20V$
 $I_{DSS}=300\mu A(Max.) @V_{DS}=900V$
- Enhancement-Mode : $V_{th}=1.5 \sim 3.5V @I_D=1mA$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	900	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	1	A
	Pulse	I_{DP}	3	
Drain Power Dissipation ($T_c=25^\circ C$)		P_D	60	W
Channel Temperature		T_{ch}	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ C$

INDUSTRIAL APPLICATIONS
 Unit in mm



Weight : 1.9g

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

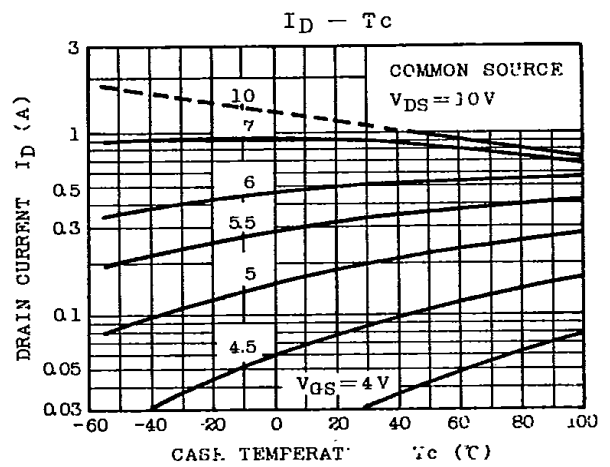
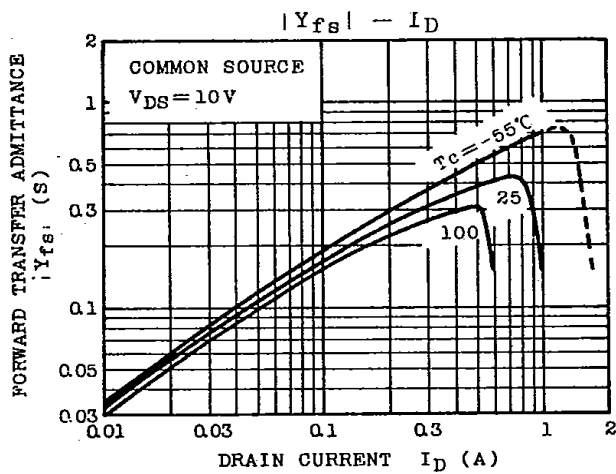
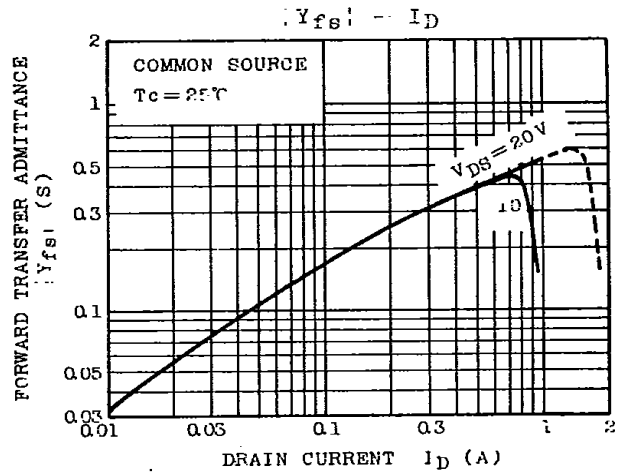
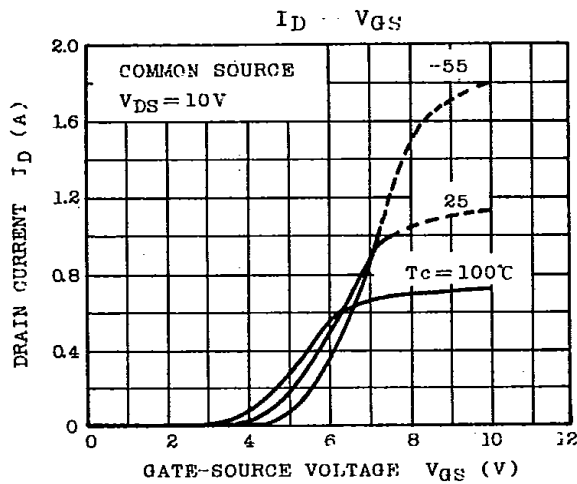
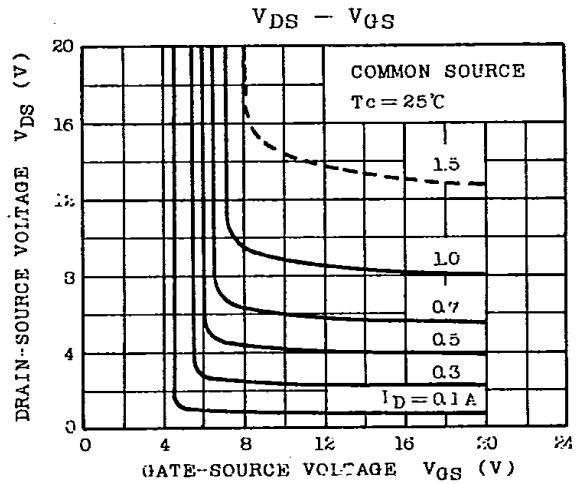
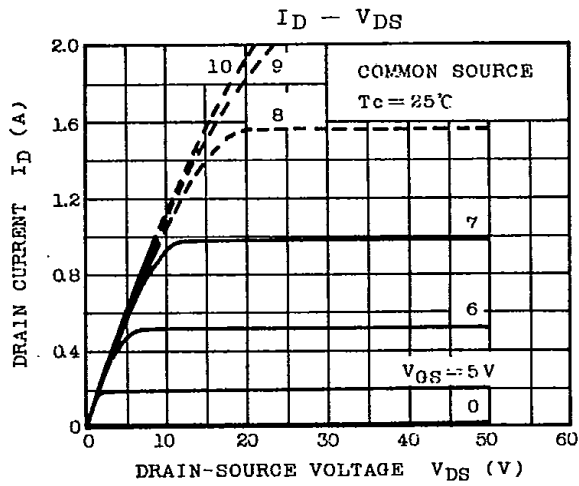
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$	-	-	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS}=900V, V_{GS}=0$	-	-	300	μA
Drain-Source Breakdown Voltage		$V(BR)_{DSS}$	$I_D=10mA, V_{GS}=0$	900	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=0.5A$	0.2	0.4	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=0.5A, V_{GS}=10V$	-	8.2	9.0	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=1A, V_{GS}=10V$	-	8.8	10	V
Input Capacitance		C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	450	600	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	30	60	pF
Output Capacitance		C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	70	120	pF
Switching Time	Rise Time	t_r	 $I_D=1A$ $V_{IN}: t_r, t_f < 5ns$ $V_{DD}=200V$ $D, U \leq 1\% (Z_{OUT}=50\Omega)$	-	30	90	ns
	Turn-on Time	t_{on}		-	45	120	
	Fall Time	t_f		-	35	90	
	Turn-off Time	t_{off}		-	150	340	

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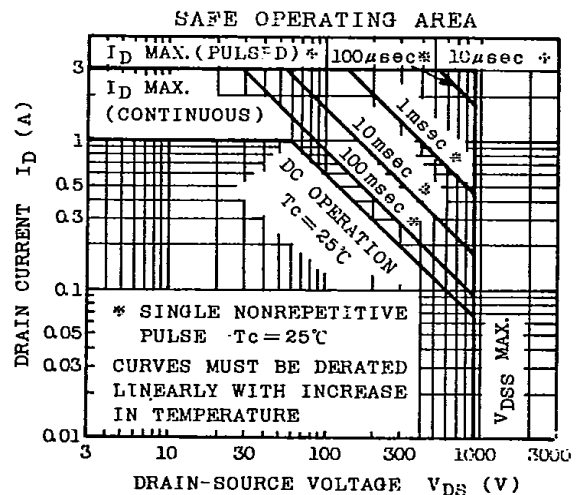
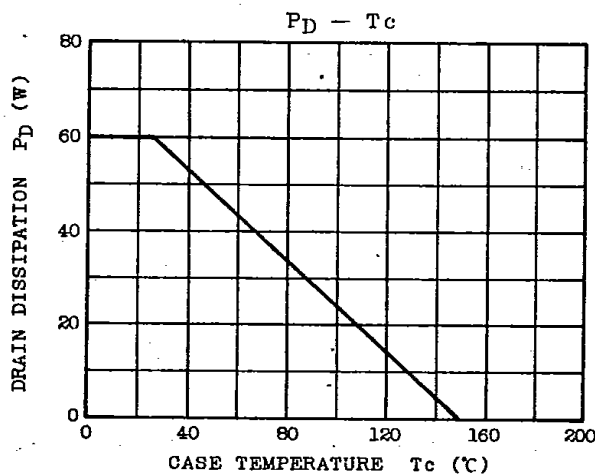
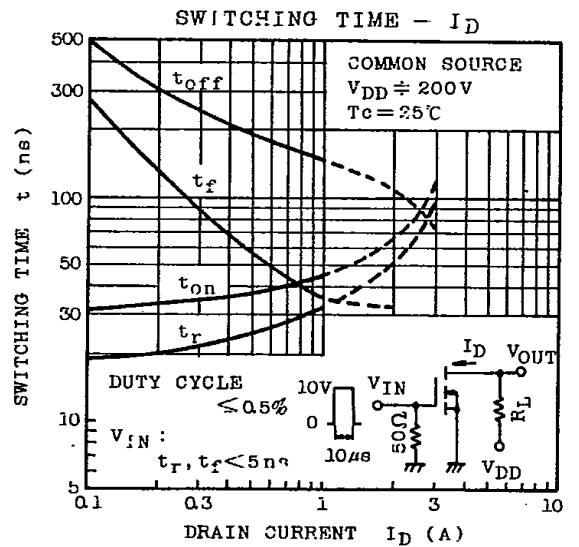
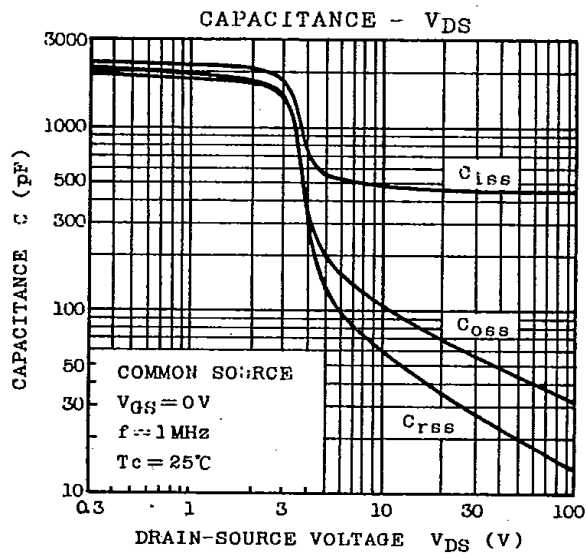
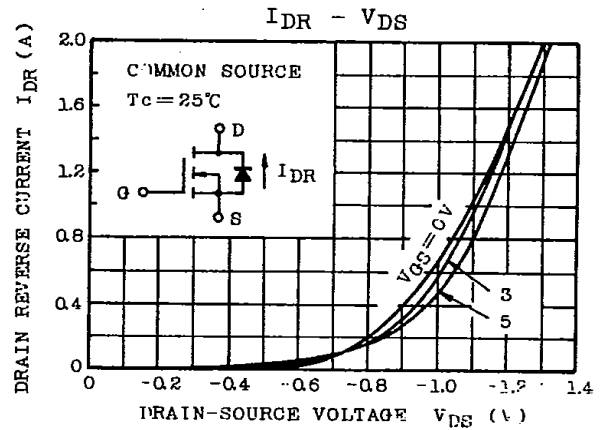
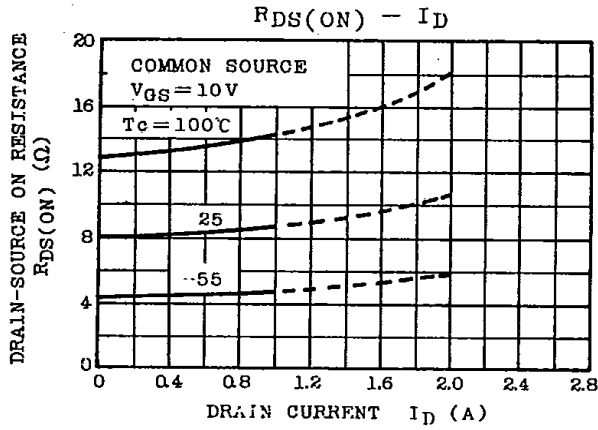
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