



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA FIELD EFFECT TRANSISTOR
2SK355
 SILICON N CHANNEL MOS TYPE
 (π -MOS)

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

FEATURES:

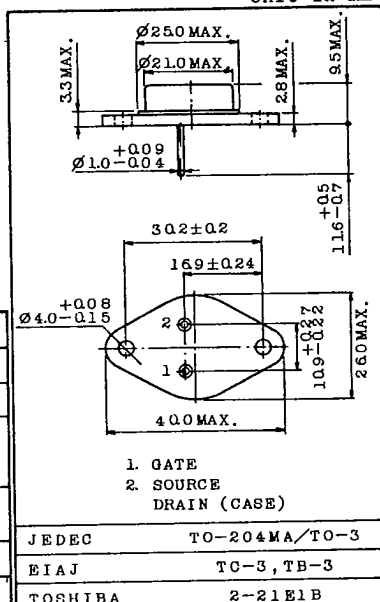
- Low Drain-Source ON Resistance : $R_{DS(ON)}=0.12\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=6S$ (Typ.)
- Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=150V$
- Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSX}	150	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	DC	I_D	12
	Pulse	I_{DP}	40
Drain Power Dissipation (Tc=25°C)	P_D	120	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	-65 ~ 150	°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}	$V_{DS}=150V, V_{GS}=0$	-	-	1.0	mA		
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	150	-	-	V		
Gate Threshold Voltage	V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V		
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=10A$	3	6	-	S		
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D=10A, V_{GS}=10V$	-	0.12	0.18	Ω		
Drain-Source ON Voltage	$V_{DS(ON)}$	$I_D=10A, V_{GS}=10V$	-	1.2	1.8	V		
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	1600	2200	pF		
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	350	600	pF		
Output Capacitance	C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	800	1300	pF		
Switching Time	Rise Time	t_r			-	120	240	ns
	Turn-on Time	t_{on}			-	150	300	ns
	Fall Time	t_f			-	120	240	ns
	Turn-off Time	t_{off}			-	300	600	ns

Test conditions for switching times: $V_{IN}: t_r, t_f < 5ns$, $V_{DD}=100V$, $D, U \leq 1\%$ ($Z_{OUT}=50\Omega$)

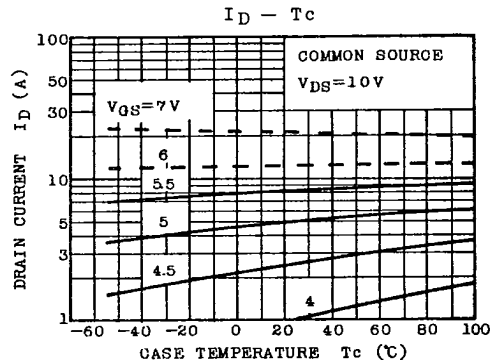
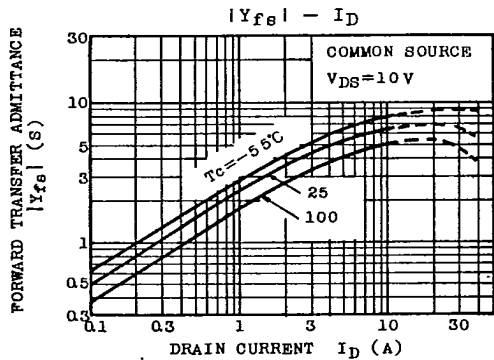
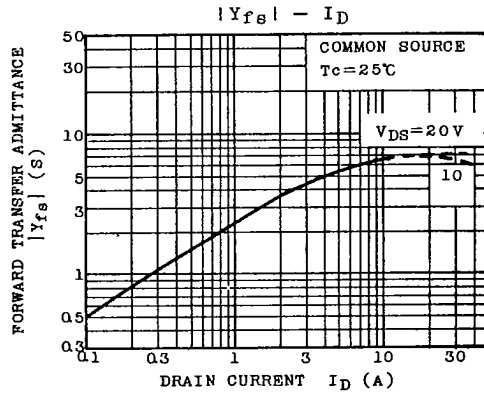
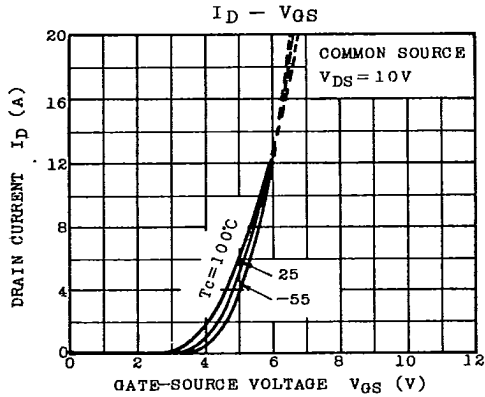
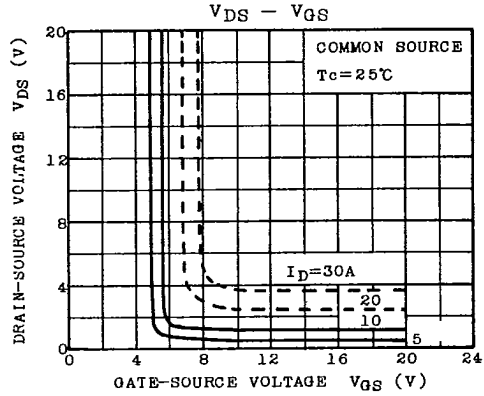
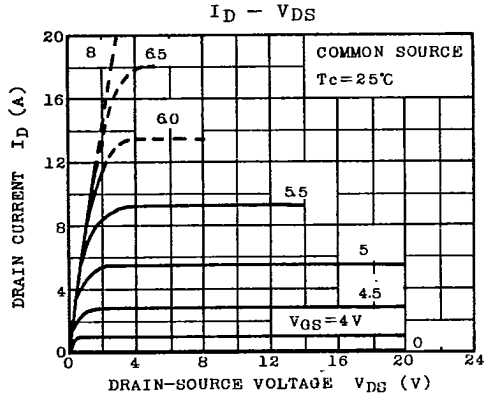
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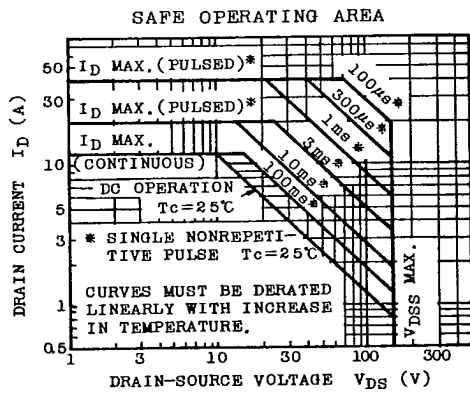
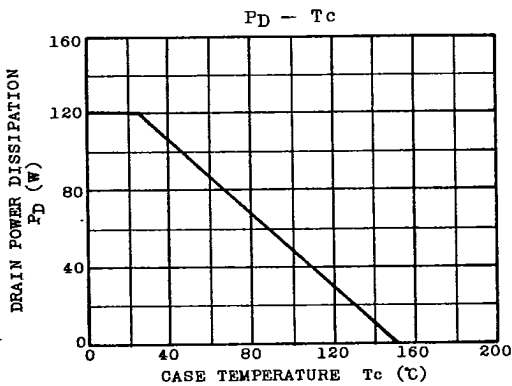
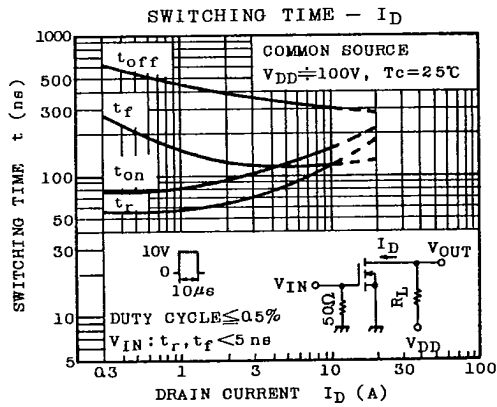
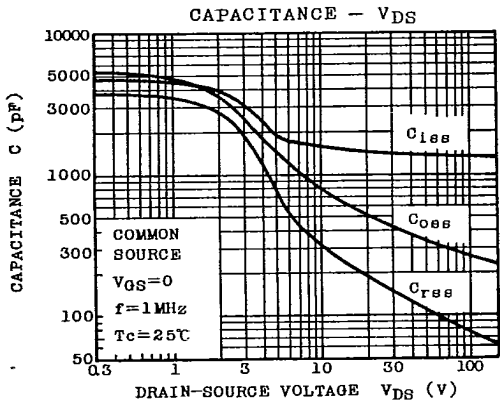
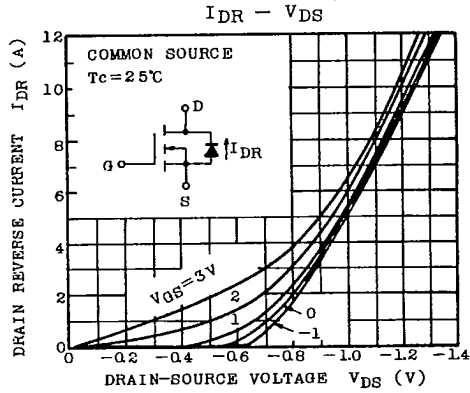
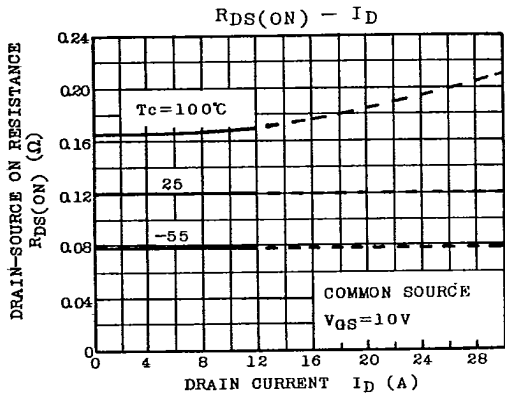
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