

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16647 DT-39-13

**SEMICONDUCTOR****TECHNICAL DATA**

TOSHIBA FIELD EFFECT TRANSISTOR  
**2SK355**  
 SILICON N CHANNEL MOS TYPE  
 ( $\pi$ -MOS)

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

**FEATURES:**

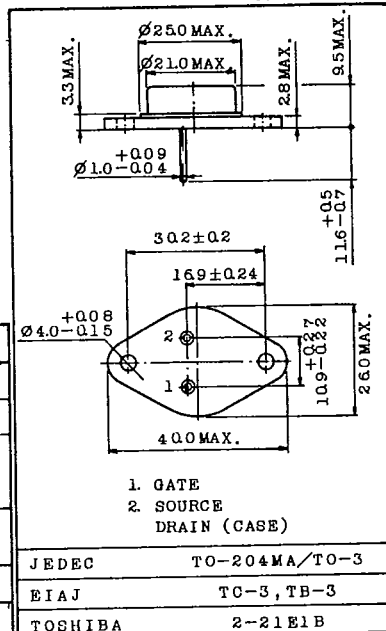
- Low Drain-Source ON Resistance :  $R_{DS(ON)}=0.12\Omega$ (Typ.)
- High Forward Transfer Admittance :  $|Y_{fs}|=6S$ (Typ.)
- Low Leakage Current :  $I_{GSS}=\pm 100nA$ (Max.) @  $V_{GS}=\pm 20V$   
 $I_{DSS}=1mA$ (Max.) @  $V_{DS}=150V$
- Enhancement-Mode :  $V_{th}=1.5\sim 3.5V$  @  $I_D=1mA$

**MAXIMUM RATINGS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V <sub>DSX</sub>	150	V
Gate-Source Voltage	V <sub>GSS</sub>	$\pm 20$	V
Drain Current	DC	I <sub>D</sub>	12
	Pulse	I <sub>DP</sub>	40
Drain Power Dissipation (T <sub>c</sub> =25°C)	P <sub>D</sub>	120	W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-65 ~ 150	°C

**INDUSTRIAL APPLICATIONS**

Unit in mm



1. GATE  
 2. SOURCE  
 DRAIN (CASE)

JEDEC TO-204MA/TO-3

EIAJ TC-3, TB-3

TOSHIBA 2-21E1B

Weight : 15.8g

**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = $\pm 20V$ , V <sub>DS</sub> =0	-	-	$\pm 100$	nA
Drain Cut-off Current	I <sub>DSS</sub>	V <sub>DS</sub> =150V, V <sub>GS</sub> =0	-	-	1.0	mA
Drain-Source Breakdown Voltage	V(BR)DSS	I <sub>D</sub> =10mA, V <sub>GS</sub> =0	150	-	-	V
Gate Threshold Voltage	V <sub>th</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.5	-	3.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =10A	3	6	-	S
Drain-Source ON Resistance	R <sub>DS(ON)</sub>	I <sub>D</sub> =10A, V <sub>GS</sub> =10V	-	0.12	0.18	$\Omega$
Drain-Source ON Voltage	V <sub>DS(ON)</sub>	I <sub>D</sub> =10A, V <sub>GS</sub> =10V	-	1.2	1.8	V
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	-	1600	2200	pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	-	350	600	pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	-	800	1300	pF
Switching Time	Rise Time	t <sub>r</sub>	-	120	240	ns
	Turn-on Time	t <sub>on</sub>	-	150	300	ns
	Fall Time	t <sub>f</sub>	-	120	240	ns
	Turn-off Time	t <sub>off</sub>	-	300	600	ns

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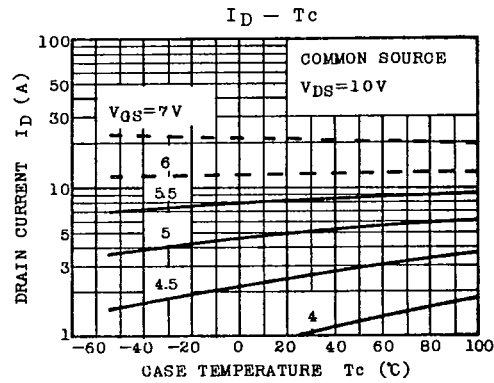
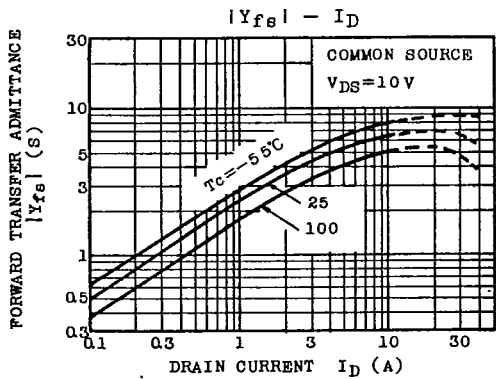
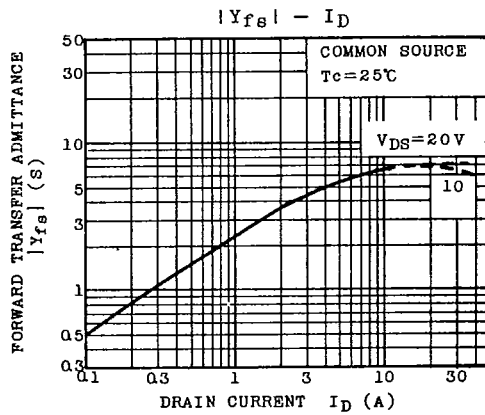
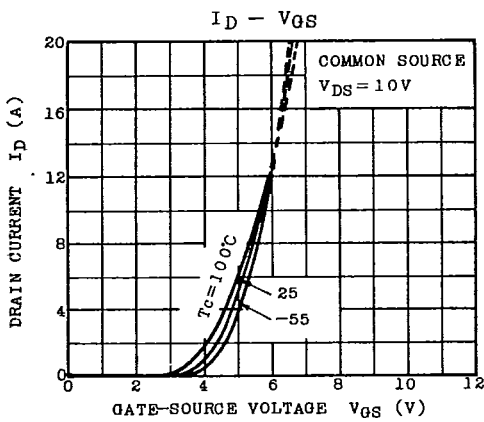
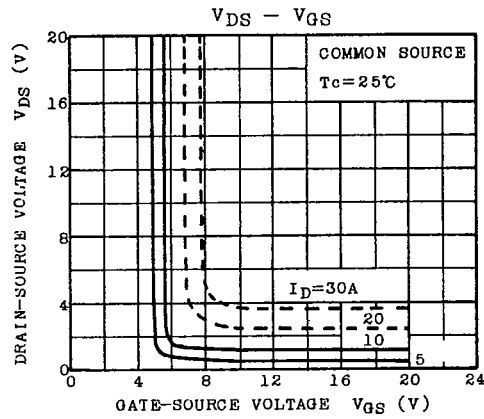
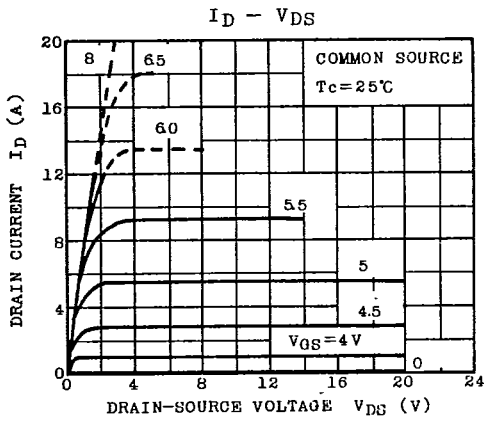
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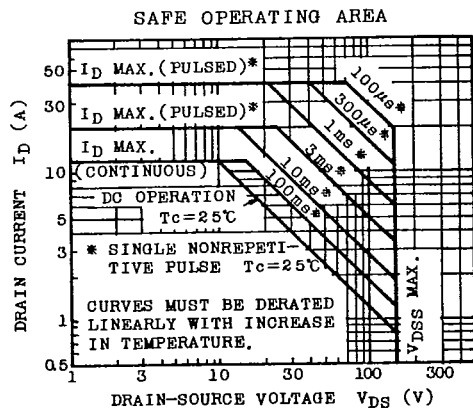
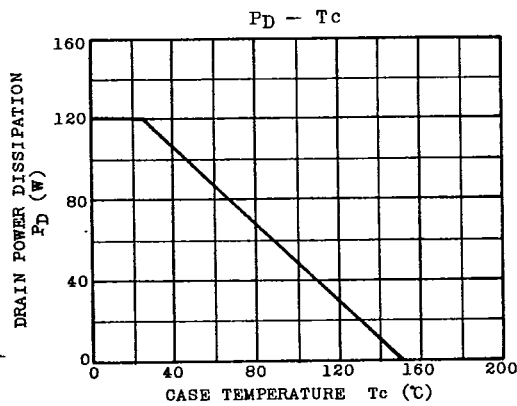
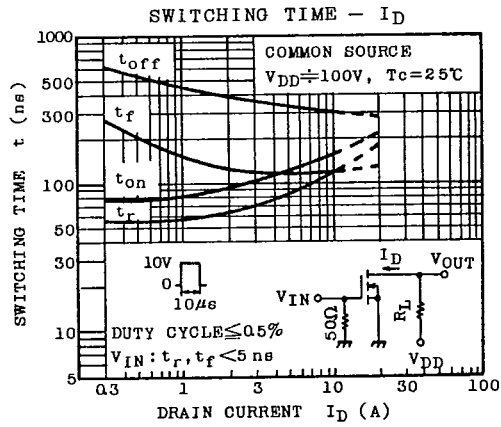
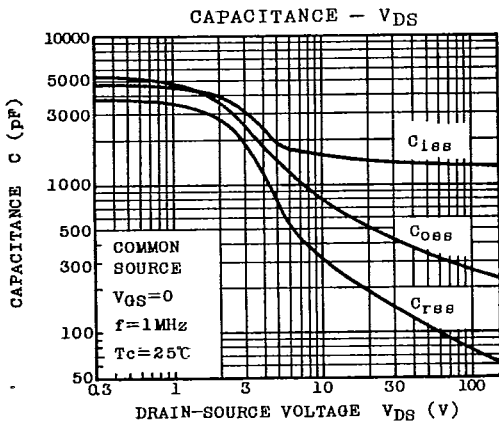
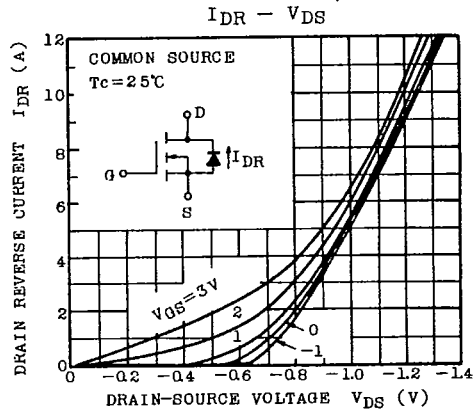
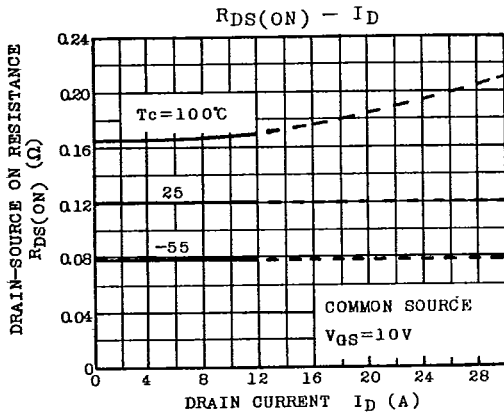
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