

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16692 D

T-39-11

TOSHIBA FIELD EFFECT TRANSISTOR

2SK527

SILICON N CHANNEL MOS TYPE  
( $\pi$ -MOS)

SEMICONDUCTOR

## TECHNICAL DATA

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

## FEATURES:

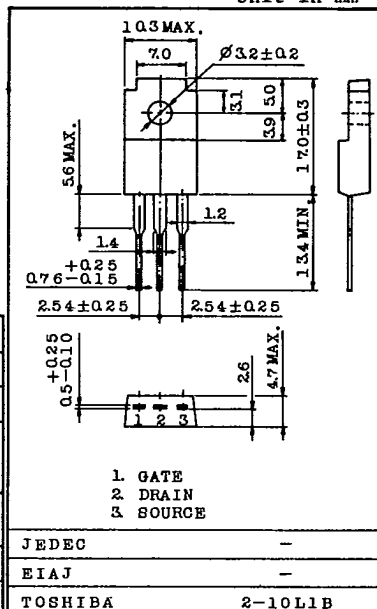
- Low Drain-Source ON Resistance :  $R_{DS(ON)} = 0.1\Omega$  (Typ.)
- High Forward Transfer Admittance:  $|Y_{fs}| = 4S$  (Typ.)
- Low Leakage Current :  $I_{GSS} = \pm 100nA$  (Max.) @  $V_{GS} = \pm 20V$   
 $I_{DSS} = 1mA$  (Max.) @  $V_{DS} = 60V$
- Enhancement-Mode :  $V_{th} = 1.5 \sim 3.5V$  @  $I_D = 1mA$
- 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                               | $V_{GSS}$ | $\pm 20$       | V          |
| Drain Current                                     | DC        | $I_D$          | A          |
|                                                   | Pulse     | $I_{DP}$       |            |
| Drain Power Dissipation<br>( $T_c = 25^\circ C$ ) | $P_D$     | 40             | W          |
| Channel Temperature                               | $T_{ch}$  | 150            | $^\circ C$ |
| Storage Temperature Range                         | $T_{stg}$ | $-55 \sim 150$ | $^\circ C$ |

## INDUSTRIAL APPLICATIONS

Unit in mm

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

Weight : 2.1g

| CHARACTERISTIC                 | SYMBOL        | TEST CONDITION                       | MIN. | TYP. | MAX.      | UNIT     |
|--------------------------------|---------------|--------------------------------------|------|------|-----------|----------|
| Gate Leakage Current           | $I_{GSS}$     | $V_{GS} = \pm 20V, V_{DS} = 0$       | -    | -    | $\pm 100$ | 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} $    | $V_{DS} = 10V, I_D = 5A$             | 2    | 4    | -         | S        |
| Drain-Source ON Resistance     | $R_{DS(ON)}$  | $I_D = 5A, V_{GS} = 10V$             | -    | 0.10 | 0.14      | $\Omega$ |
| Drain-Source ON Voltage        | $V_{DS(ON)}$  | $I_D = 10A, V_{GS} = 10V$            | -    | 1.0  | 1.5       | V        |
| Input Capacitance              | $C_{iss}$     | $V_{DS} = 10V, V_{GS} = 0, f = 1MHz$ | -    | 850  | 1100      | pF       |
| Reverse Transfer Capacitance   | $C_{rss}$     | $V_{DS} = 10V, V_{GS} = 0, f = 1MHz$ | -    | 370  | 600       | pF       |
| Output Capacitance             | $C_{oss}$     | $V_{DS} = 10V, V_{GS} = 0, f = 1MHz$ | -    | 800  | 1100      | pF       |
| Switching Time                 | Rise Time     | $t_r$                                | -    | 100  | 200       | ns       |
|                                | Turn-on Time  | $t_{on}$                             | -    | 120  | 240       | ns       |
|                                | Fall Time     | $t_f$                                | -    | 85   | 170       | ns       |
|                                | Turn-off Time | $t_{off}$                            | -    | 160  | 320       | ns       |

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

TOSHIBA CORPORATION

GT1A2

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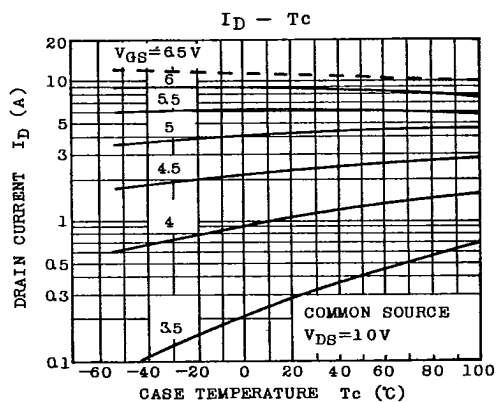
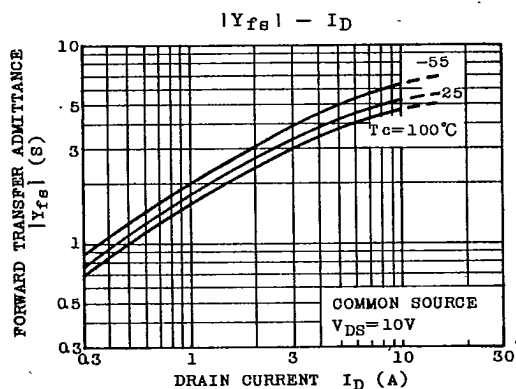
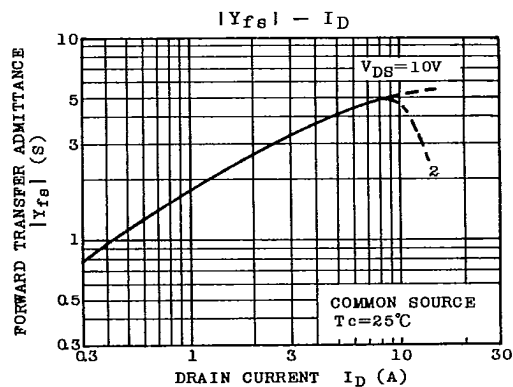
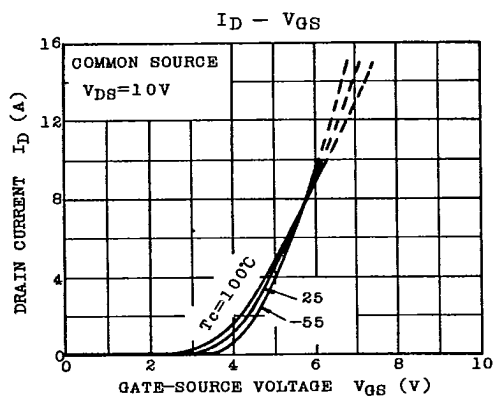
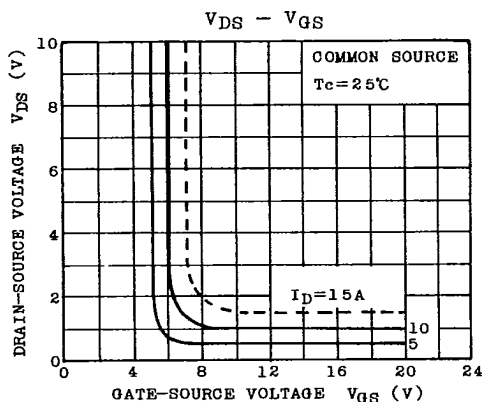
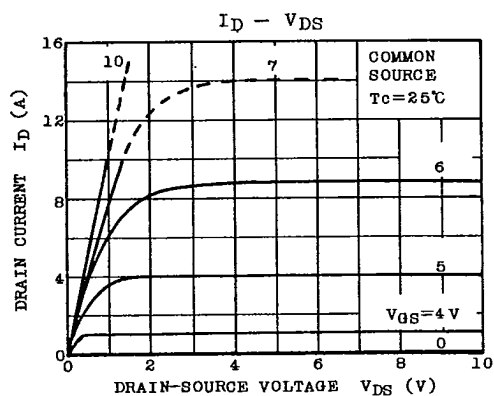
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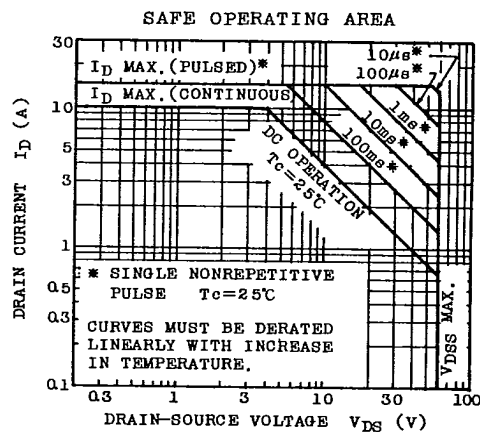
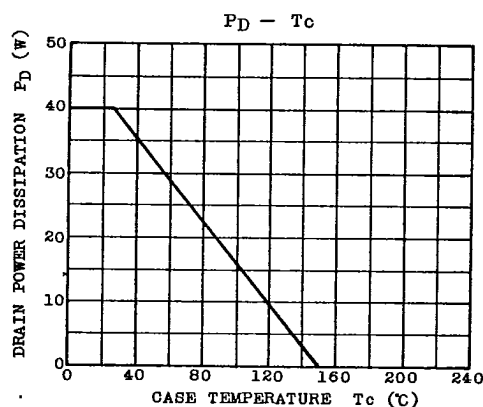
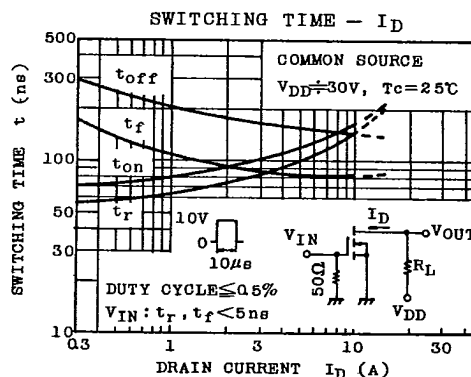
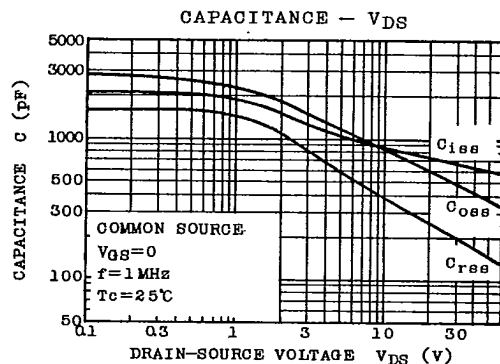
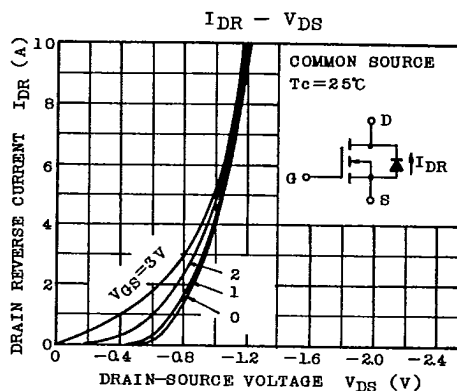
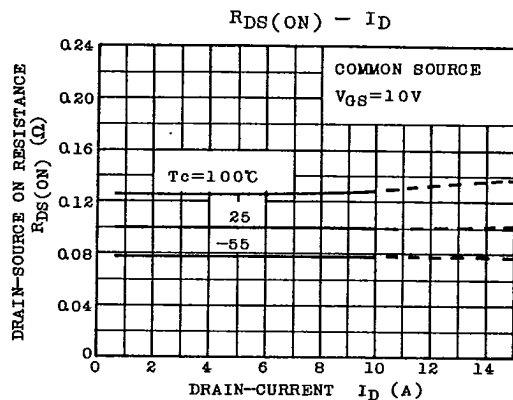
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