

9097250 TOSHIBA (DISCRETE/OPTO)

99D 16653 D

T-39-11

TOSHIBA FIELD EFFECT TRANSISTOR
2SK357SILICON N CHANNEL MOS TYPE
(π -MOS)

SEMICONDUCTOR

TECHNICAL DATA

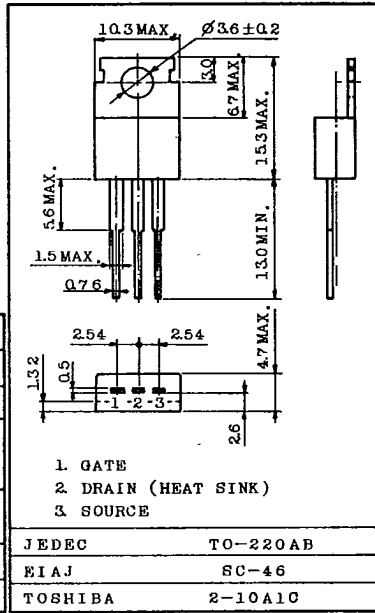
HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
DC-DC CONVERTER, MOTOR AND SOLENOID DRIVE APPLICATIONS.

FEATURES:

- Low Drain-Source ON Resistance : $R_{DS(ON)}=0.6\Omega$ (Typ.)
- High Forward Transfer Admittance: $|Y_{fs}|=1.8S$ (Typ.)
- High Drain Current : $I_{DP}=8A$ (Max.)
- Low Leakage Current: $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=150V$
- 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} | 150 | V |
| Gate-Source Voltage | | V_{GSS} | ± 20 | V |
| Drain Current | DC | I_D | 5 | A |
| | Pulse | I_{DP} | 8 | |
| Drain Power Dissipation ($T_c=25^\circ C$) | | P_D | 40 | W |
| Channel Temperature | | T_{ch} | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -55 ~ 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} | $V_{DS}=150V, V_{GS}=0$ | - | - | 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} $ | $V_{DS}=10V, I_D=3A$ | 0.8 | 1.8 | - | S | |
| Drain-Source ON Resistance | $R_{DS(ON)}$ | $I_D=3A, V_{GS}=10V$ | - | 0.6 | 0.9 | Ω | |
| Drain-Source ON Voltage | $V_{DS(ON)}$ | $I_D=8A, V_{GS}=10V$ | - | 5.5 | 9.5 | V | |
| Input Capacitance | C_{iss} | $V_{DS}=10V, V_{GS}=0, f=1MHz$ | - | 260 | 350 | pF | |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=10V, V_{GS}=0, f=1MHz$ | - | 50 | 100 | pF | |
| Output Capacitance | C_{oss} | $V_{DS}=10V, V_{GS}=0, f=1MHz$ | - | 160 | 250 | pF | |
| Switching Time | Rise Time | t_r | | - | 30 | 60 | ns |
| | Turn-on Time | t_{on} | | - | 40 | 80 | |
| | Fall Time | t_f | | - | 20 | 50 | |
| | Turn-off Time | t_{off} | | - | 60 | 120 | |

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

TOSHIBA CORPORATION

GT1A2

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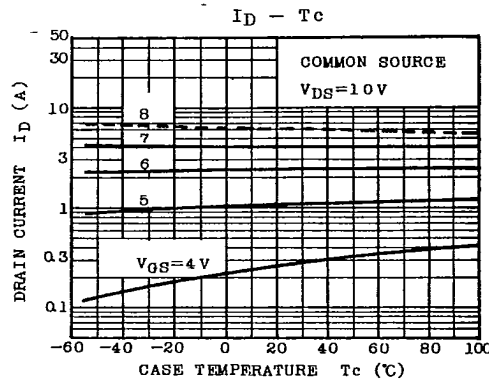
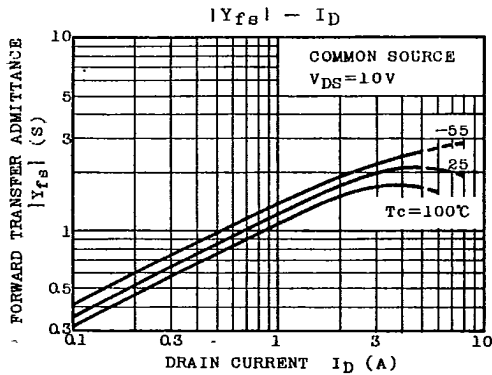
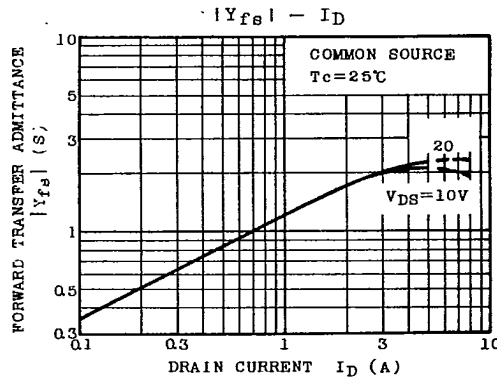
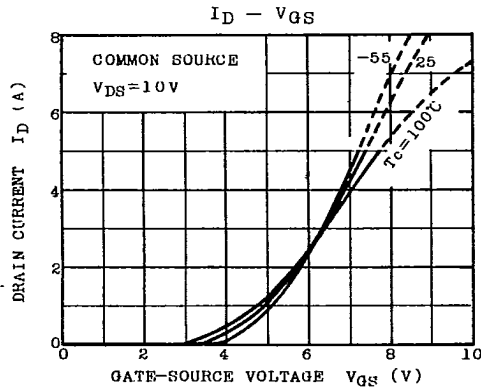
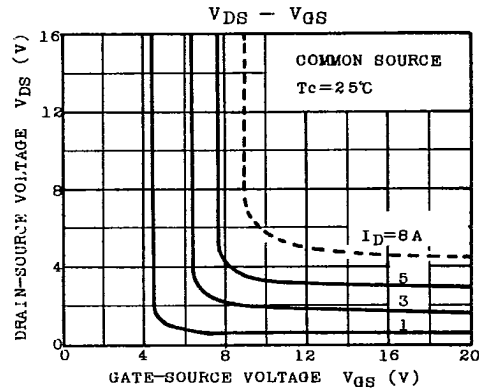
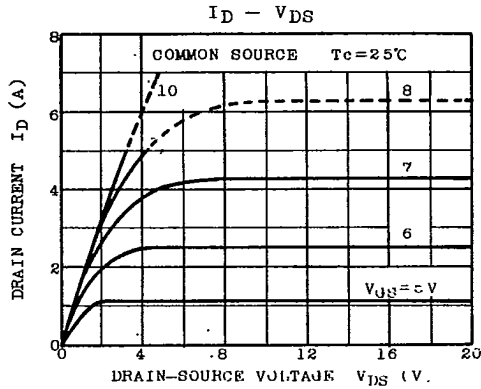
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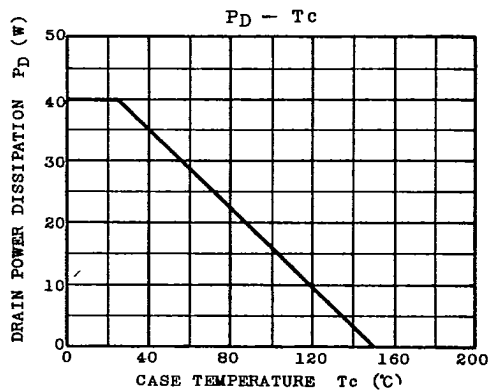
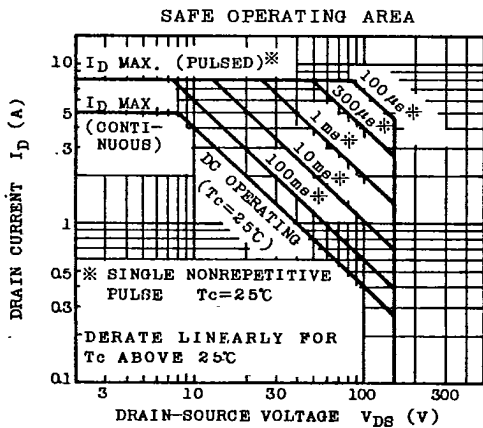
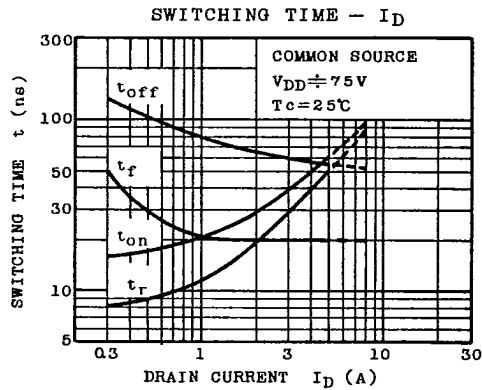
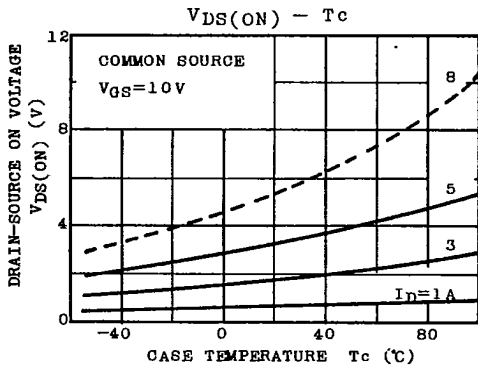
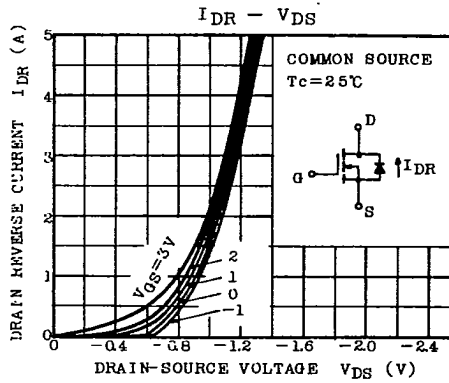
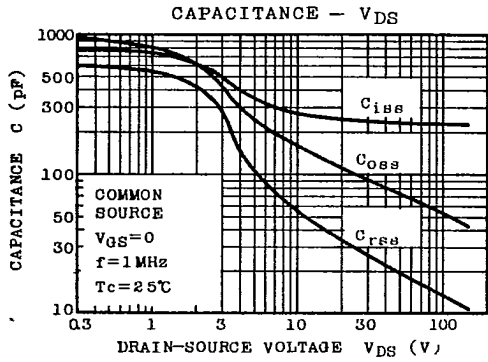
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