TOSHIBA SEMICONDUCTOR
TECHNICAL DATA

GLYN
Am Wörtzgarten 8
65510 Idstein/Ts.
- Germany -
Tel. 06126-590-222
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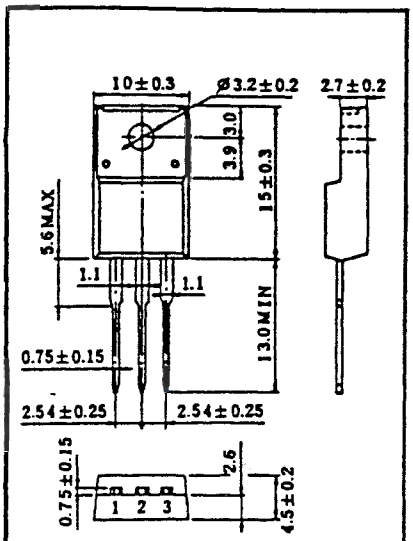
TOSHIBA FIELD EFFECT TRANSISTOR
2SK2352
SILICON N CHANNEL MOS TYPE
(π-MOSIV)

HIGH SPEED, HIGH CURRENT SWITHING APPLICATIONS.
CHOPPER REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

INDUSTRIAL APPLICATIONS

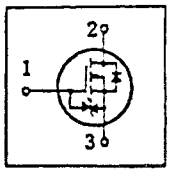
UNIT in mm



1. GATE
2. DRAIN
3. SOURCE

JEDEC	—
EIAJ	SC-67
TOSHIBA	2-10R1B

Weight : 1.9g



- Low Drain-Source ON Resistance : RDS(ON)=1.06Ω (Typ.)
- High Forward Transfer Admittance : |Yfs| = 6 S (Typ.)
- Low Leakage Current : IDSS= 100μA (Max.) (VDS=600V)
- Enhancement-Mode : Vth=2.0~4.0V (VDS= 10V, ID= 1mA)

MAXIMUM RATINGS (Ta= 25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		VDSS	600	V
Drain-Gate Voltage (RGS=20KΩ)		VDGR	600	V
Gate-Source Voltage		VGSS	±30	V
Drain Current	DC	ID	6	A
	Pulse	IDP	24	A
Drain Power Dissipation (Tc=25°C)		PD	45	W
Channel Temperature		Tch	150	°C
Storage Temperature Range		Tstg	-55~150	°C

THERMAL CHARACTERISTICS

CHARACERISTIC	SYMBOL	MAX.	UNIT
Thermal Resistance, Channel To Case	Rth(ch-c)	2.77	°C/W
Thermal Resistance, Channel to Ambient	Rth(ch-a)	83.3	°C/W

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

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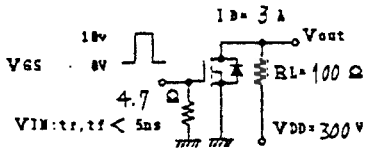
ELECTRICAL CHARACTERISTICS (Ta=25°C)

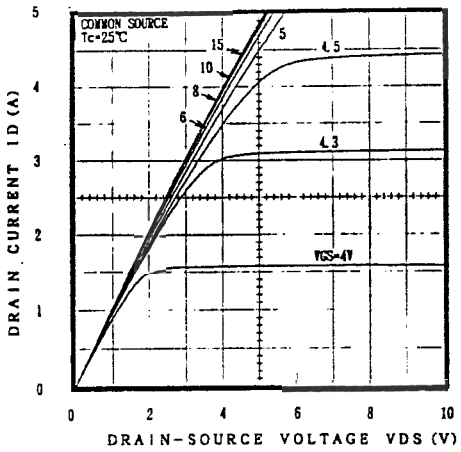
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS= ±25V, VDS= 0V	—	—	±10	μA
Gate-Source Breakdown Voltage		V(BR)GSS	IG= ±100μA, VDS= 0V	±30	—	—	V
Drain Cut-off Current		IDSS	VDS= 600V, VGS= 0V	—	—	100	μA
Drain-Source Breakdown Voltage		V(BR)DSS	ID= 10mA, VGS= 0V	600	—	—	V
Gate Threshold Voltage		Vth	VDS= 10V, ID= 1mA	2.0	—	4.0	V
Drain-Source ON Resistance		RDS(ON)	VGS= 10V, ID= 3 A	—	1.0	1.25	Ω
Forward Transfer Admittance		|Yfs|	VDS= 10V, ID= 3 A	3.0	5.5	—	S
Input Capacitance		Ciss	VDS= 10V, VGS= 0V f= 1MHz	—	1250	—	pF
Reverse Transfer Capacitance		Crss		—	75	—	
Output Capacitance		Coss		—	320	—	
Swithing Time	Rise Time	tr	 Duty ≦ 1%, tw = 10μS	—	14	—	nS
	Turn-on Time	ton		—	35	—	
	Fall Time	tf		—	12	—	
	Turn-off Time	toff		—	65	—	
Total Gate Charge (Gate-Source Plus Gate-Drain)		Qg	VDD=400V, VGS= 10V ID= 6A	—	30	—	nC
Gate-Source Charge		Qgs		—	18	—	
Gate-Drain ("Miller") Charge		Qgd		—	12	—	

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (Ta=25°C)

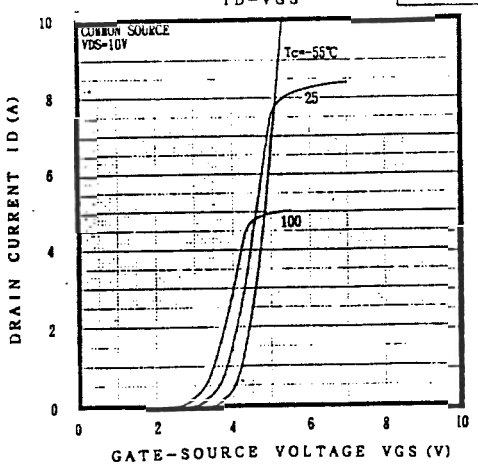
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Continuous Drain Reverse Current	IDR	—	—	—	6	A
Pulse Drain Reverse Current	IDRP	—	—	—	24	A
Diode Foward Voltage	VDSF	IDR= 6 A, VGS= 0V	—	—	1.7	V
Reverse Recovery Time	trr	IDR= 6 A, VGS= 0V dIDR/dt= 100A/μS	—	340	—	nS
Reverse Recovery Charge	Qrr		—	2.3	—	μC

TENTATIVE

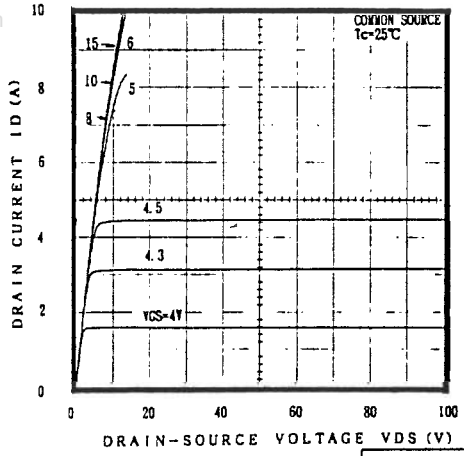
ID-VDS



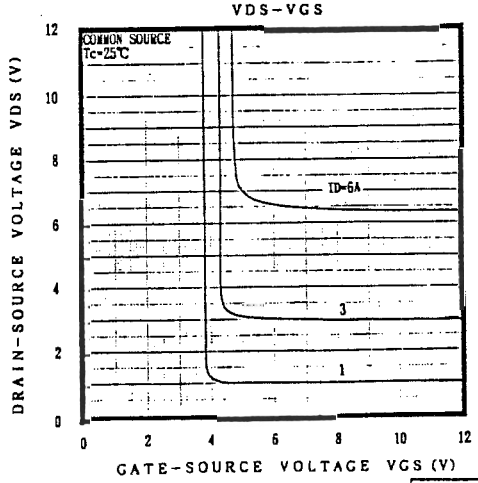
ID-VGS



ID-VDS



VDS-VGS



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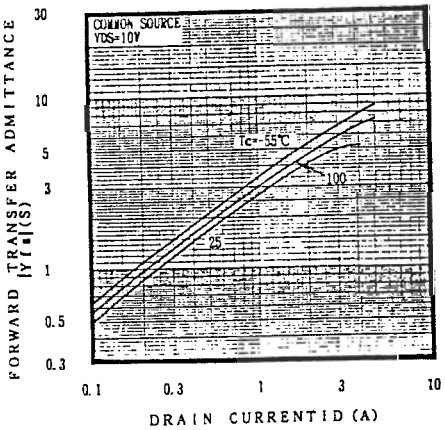
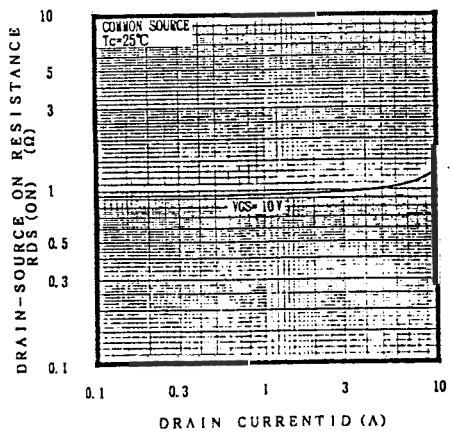
|Yfs|-ID



RDS (ON) - ID



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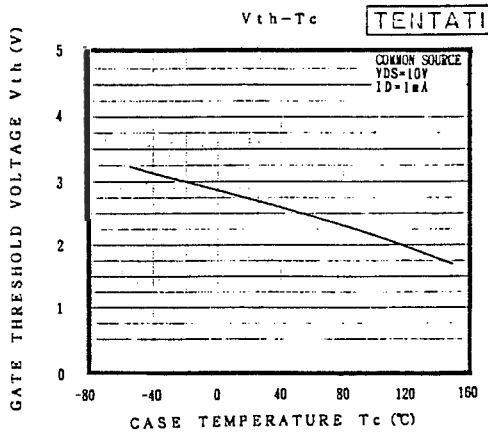
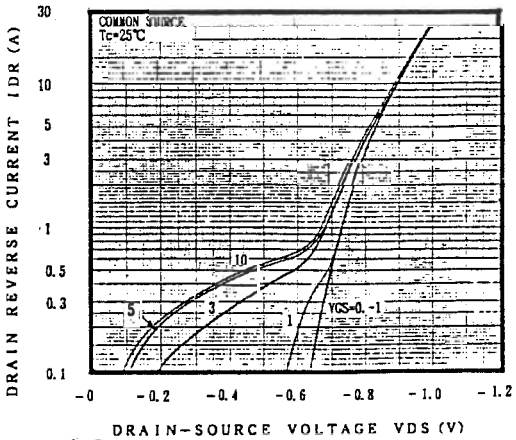
Vth-Tc



IDR-VDS



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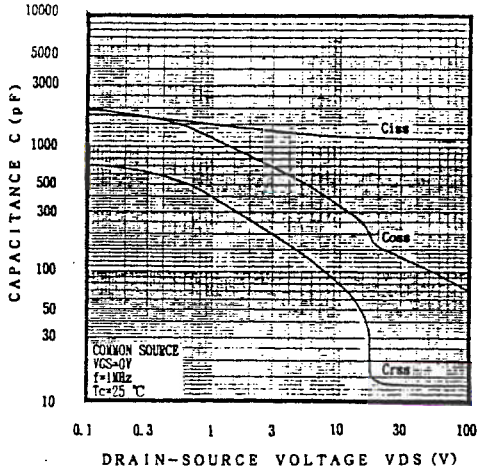
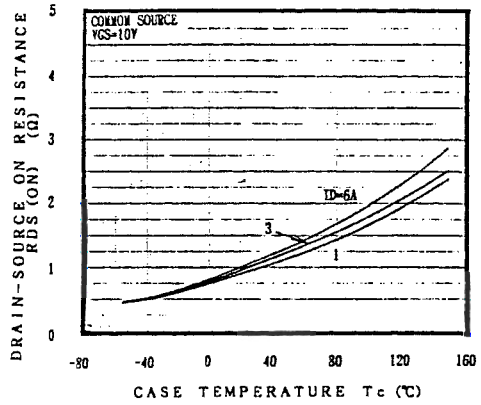
CAPACITANCE-VDS



RDS (ON) -Tc



TOSHIBA CORPORATION

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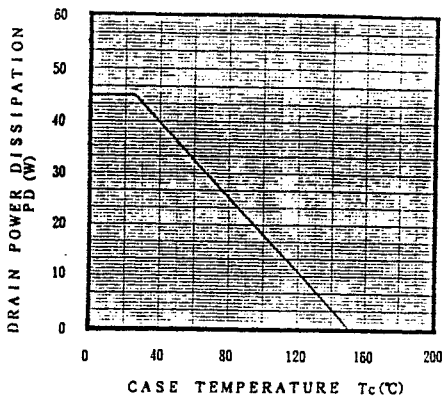
TENTATIVE

PD-Tc



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TENTATIVE

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