



SEMICONDUCTOR TECHNICAL DATA

2SK578

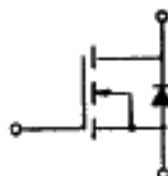
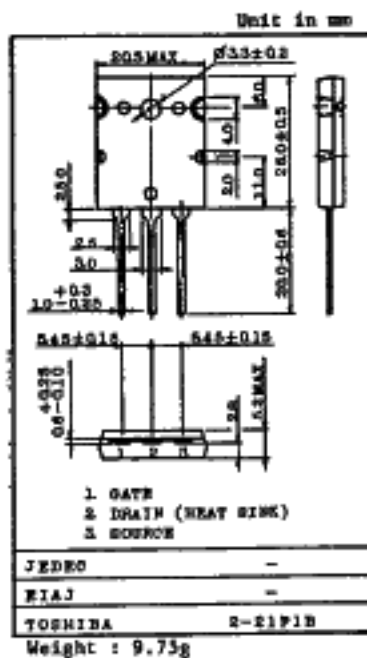
T-39.27

MG15C4HM1 (150V/15A)

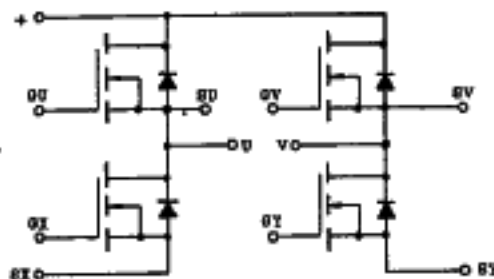
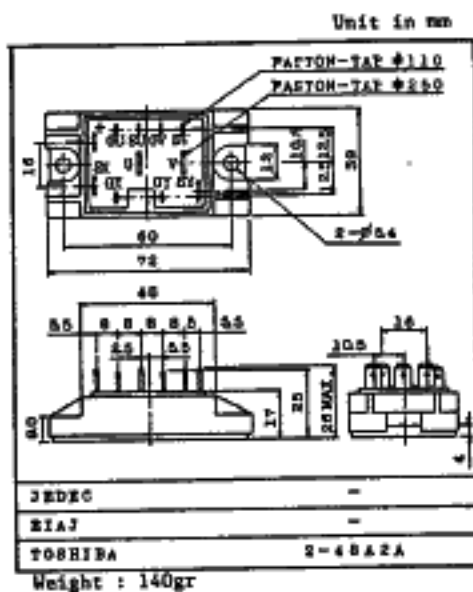
OUT LINE

EQUIVALENT CIRCUIT

2SK578



MG15C4HM1



TOSHIBA CORPORATION

GT1A2A



SEMICONDUCTOR

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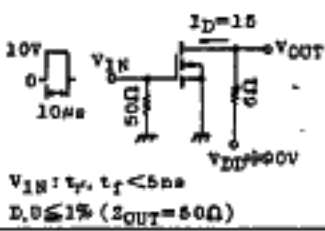
MG15C4HM1

T.39.27

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	2SK578 RATING	MG15C4HM1	UNIT
Drain-Source Voltage		V_{DS}	150	150	V
Gate-Source Voltage		V_{GS}	± 20	± 20	V
Drain Current	DC	I_D	± 15	± 15	A
	Peak		± 30	± 30	A
Drain Power Dissipation ($T_c=25^\circ\text{C}$)		P_D	120	65	W
Channel Temperature		T_{ch}	150	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$-40 \sim 125$	$^\circ\text{C}$
Isolation Voltage		V_{isol}	—	2500 (AC, 1 Min.)	V
Screw Torque		—	—	30	Kg.cm

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0$	—	—	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS}=150\text{V}$, $V_{GS}=0$	—	—	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10\text{mA}$, $V_{GS}=0$	150	—	—	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.5	—	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=15\text{A}$	4.0	7.0	—	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=15\text{A}$, $V_{GS}=10\text{V}$	—	0.15	0.22	Ω
Source Drain Forward Voltage		V_{SDF}	$I_S=15\text{A}$, $V_{GS}=0$	—	1.3	1.8	V
Input Capacitance		C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	—	1300	—	pF
Switching Time	Rise Time	t_r		—	400	800	ns
	Turn-on Time	t_{on}		—	500	1000	ns
	Fall Time	t_f		—	100	200	ns
	Turn-off Time	t_{off}		—	300	600	ns
Reverse Recovery Time		t_{rr}	$I_D=-15\text{A}$, $R_G=220\Omega$ $V_{GS}=-15\text{V}$, $dI/dt=60\text{A}/\mu\text{s}$	—	200	400	ns

TOSHIBA CORPORATION

GT1A2A

- 391 -

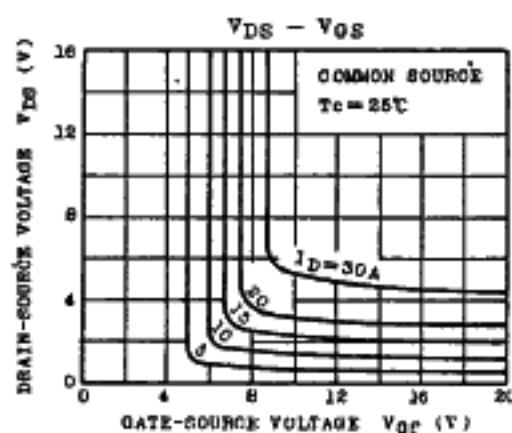
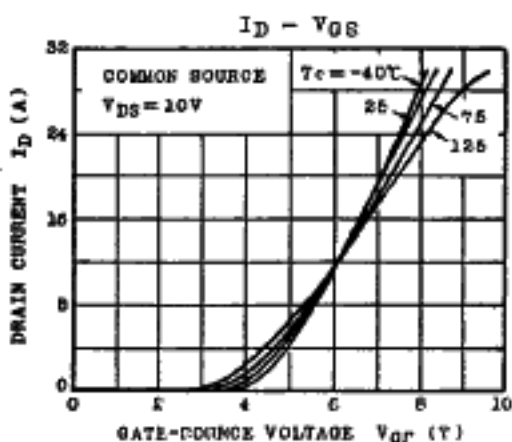
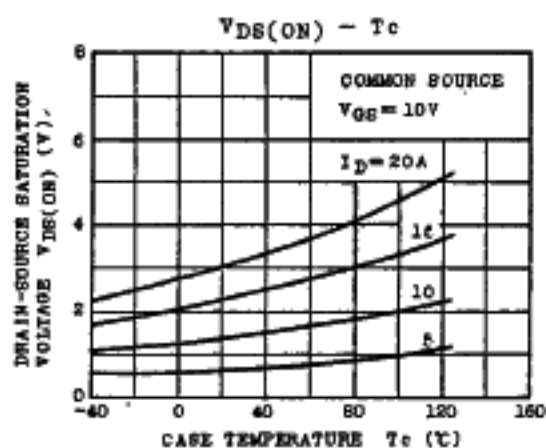
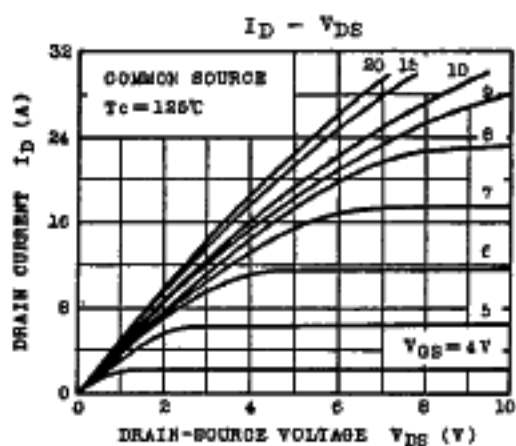
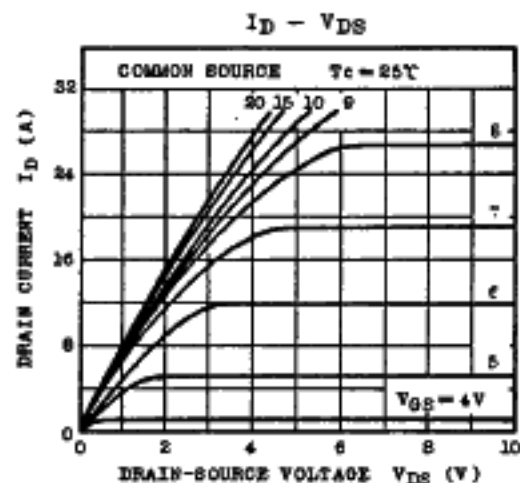
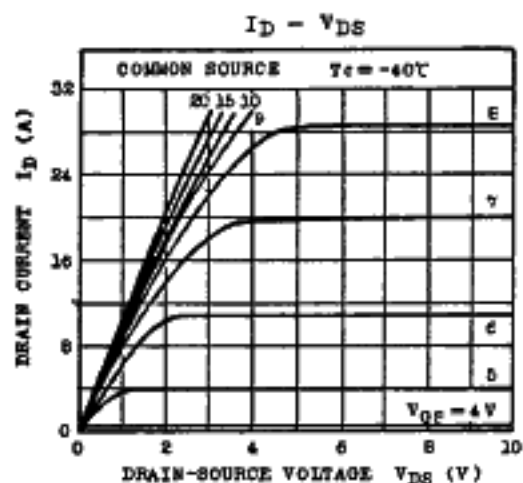


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T. 39.27



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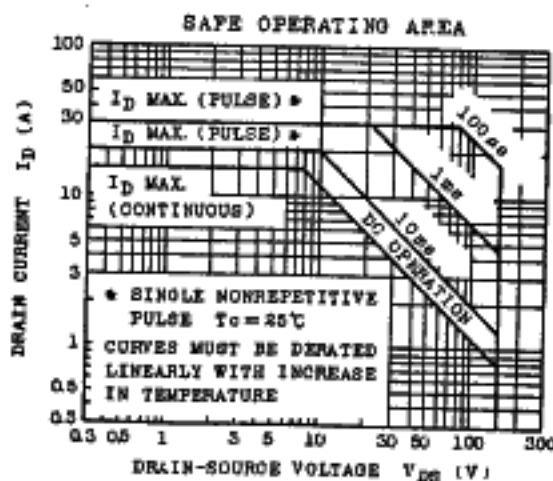
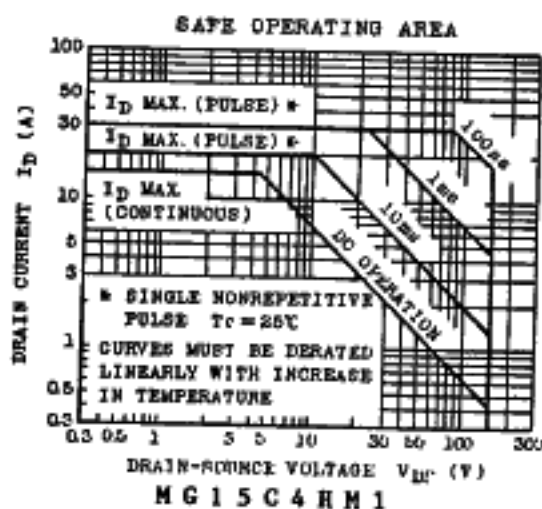
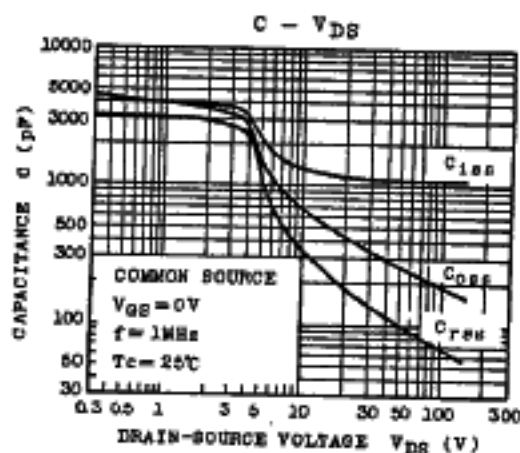
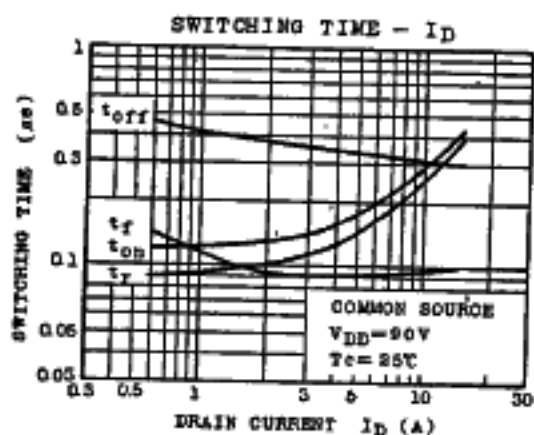
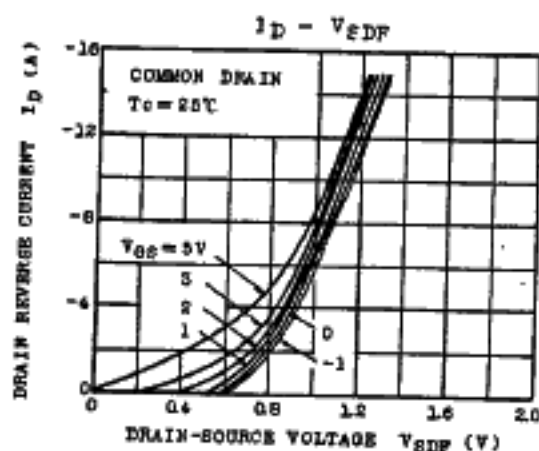
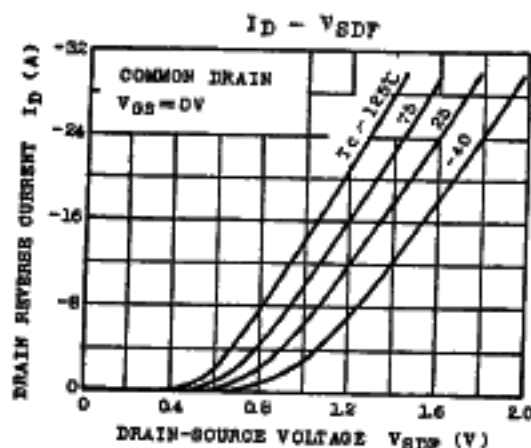
5T1A2A



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TOSHIBA CORPORATION

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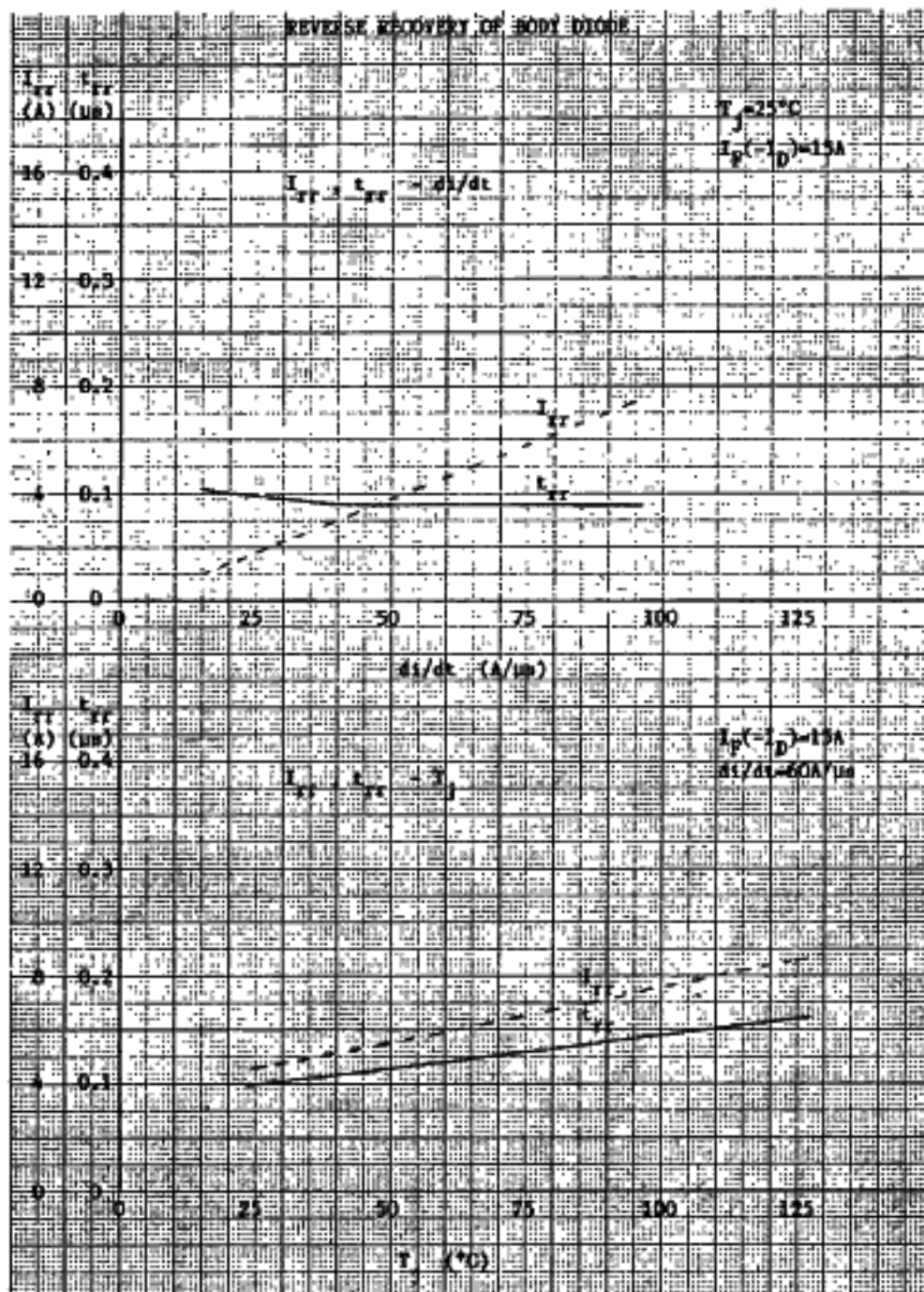


SEMICONDUCTOR

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MG15C4HMI

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TOSHIBA CORPORATION

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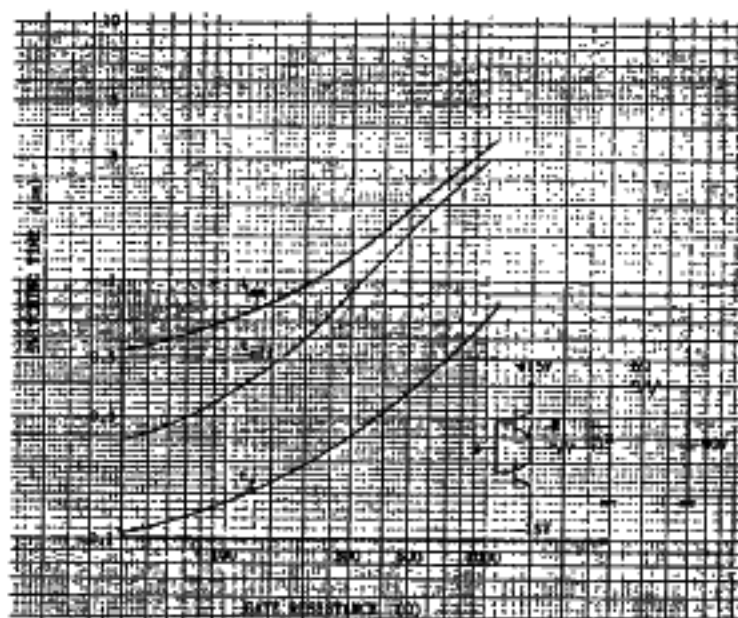
SEMICONDUCTOR

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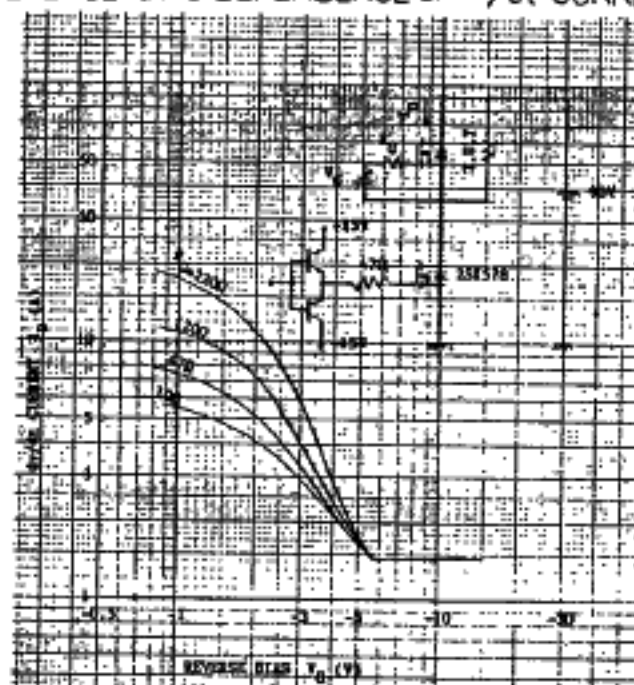
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MG15C4HM1

T-39-27

GATE RESISTANCE DEPENDENCE OF SWITCHING TIME



REVERSE BIAS DEPENDENCE OF dy/dt CURRENT



TOSHIBA CORPORATION

QT1A2A