



SEMICONDUCTOR

TECHNICAL DATA

2SK578

MG15C4HM1

T.39.27

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	2SK578	RAING	MG15C4HM1	UNIT
Drain-Source Voltage		V _{DSS}	150		150	V
Gate-Source Voltage		V _{GSS}	±20		±20	V
Drain Current	DC	I _D	±15		±15	A
	Peak		±30		±30	A
Drain Power Dissipation (Tc=25°C)		P _D	120		65	W
Channel Temperature		T _{ch}	150		150	°C
Storage Temperature Range		T _{stg}	-55~150		-40~125	°C
Isolation Voltage		V _{isol}	—		2500 (AC, 1 Min.)	V
Screw Torque		-	—		30	Kg.cm

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GSS}	V _G S=±20V, V _D S=0	-	-	±100	nA
Drain Cut-off Current		I _{DSS}	V _D S=150V, V _G S=0	-	-	1.0	mA
Drain-Source Breakdown Voltage		V(BR)DSS	I _D =10mA, V _G S=0	150	-	-	V
Gate Threshold Voltage		V _{th}	V _D S=10V, I _D =1mA	1.5	-	3.5	V
Forward Transfer Admittance		Y _{fs}	V _D S=10V, I _D =15A	4.0	7.0	-	S
Drain-Source ON Resistance		R _{DS(ON)}	I _D =15A, V _G S=10V	-	0.15	0.22	Ω
Source Drain Forward Voltage		V _{SDF}	I _S =15A, V _G S=0	-	1.3	1.8	V
Input Capacitance		C _{iss}	V _D S=10V, V _G S=0, f=1MHz	-	1300	-	pF
Switching Time	Rise Time	t _r	<p> $V_{IN}: t_r, t_f < 5ns$ $D, D \leq 1\%$ ($R_{L, OUT} = 80\Omega$) </p>	-	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 =-15A, R _G =220Ω V _G S=-15V, di/dt=60A/μs	-	200	400	ns

TOSHIBA CORPORATION

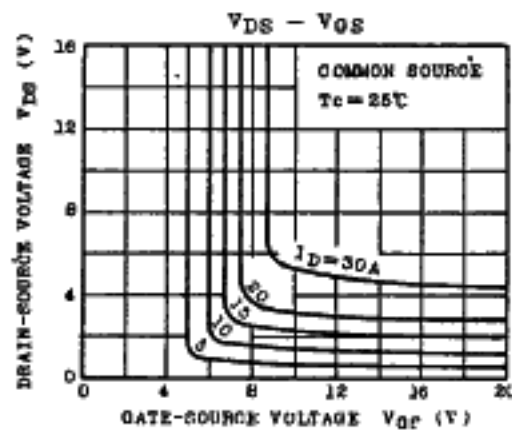
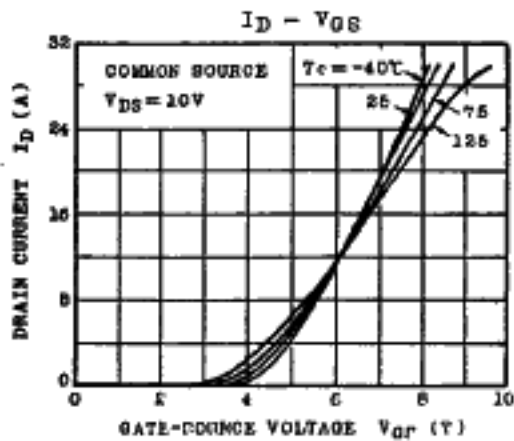
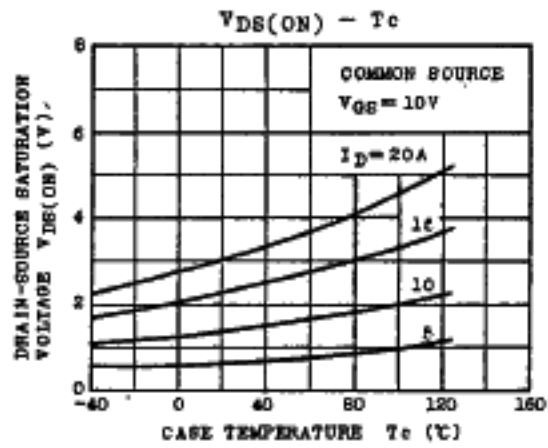
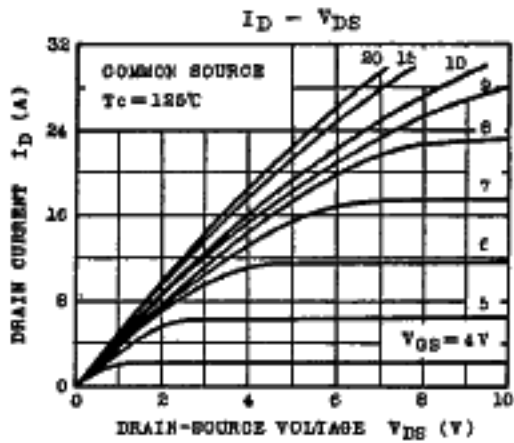
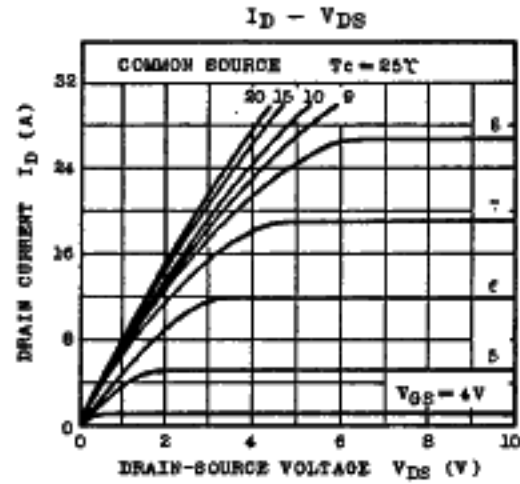
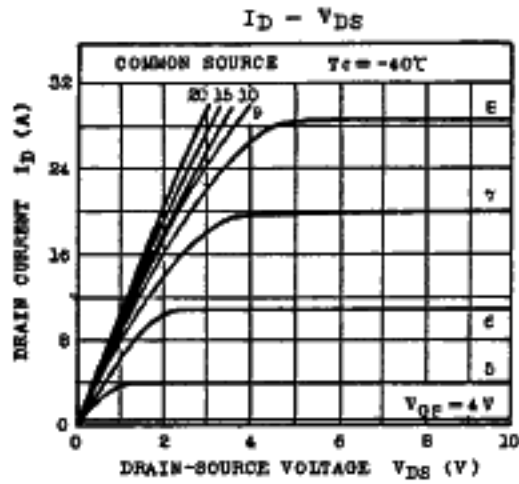
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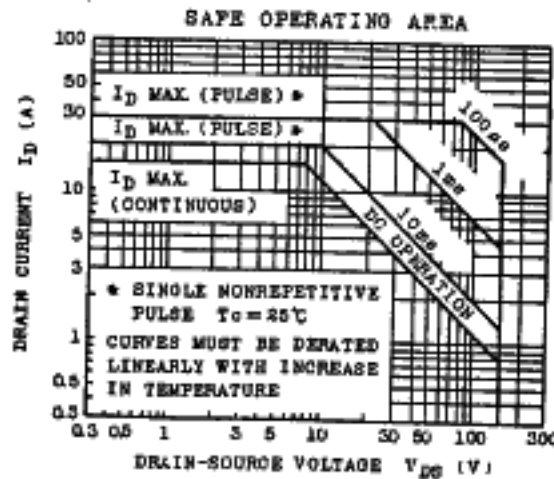
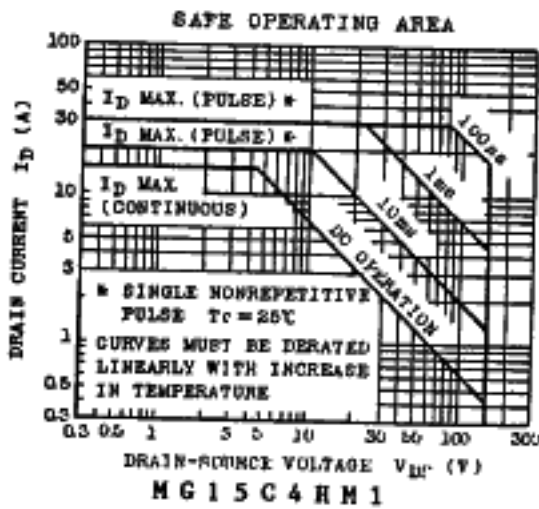
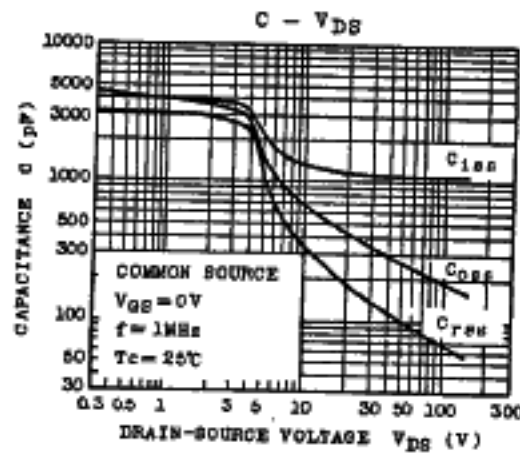
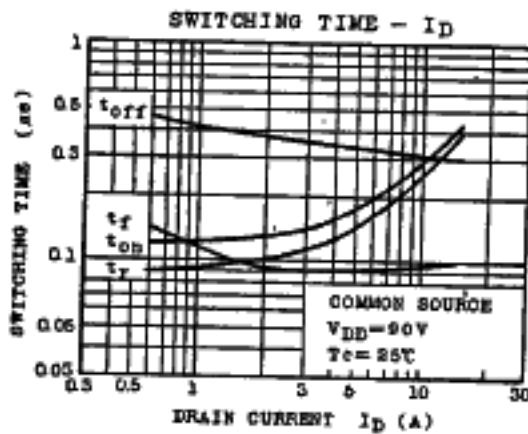
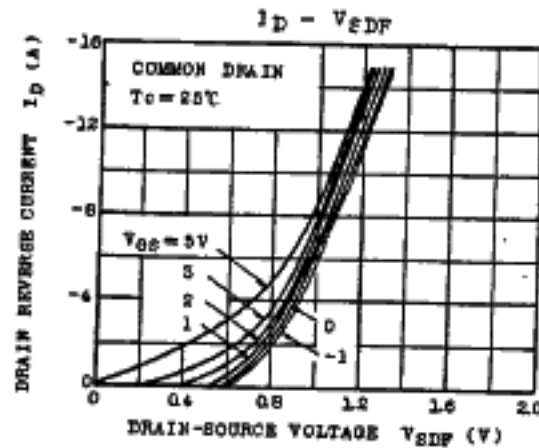
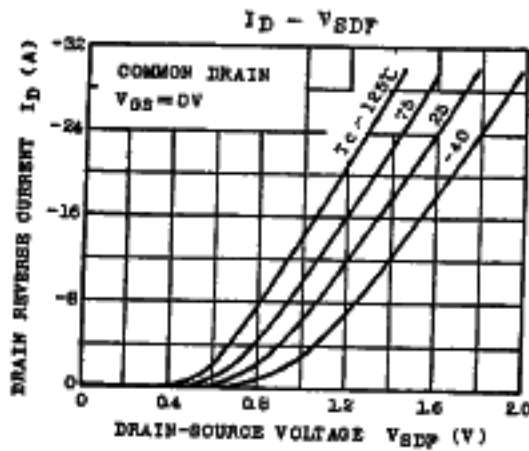


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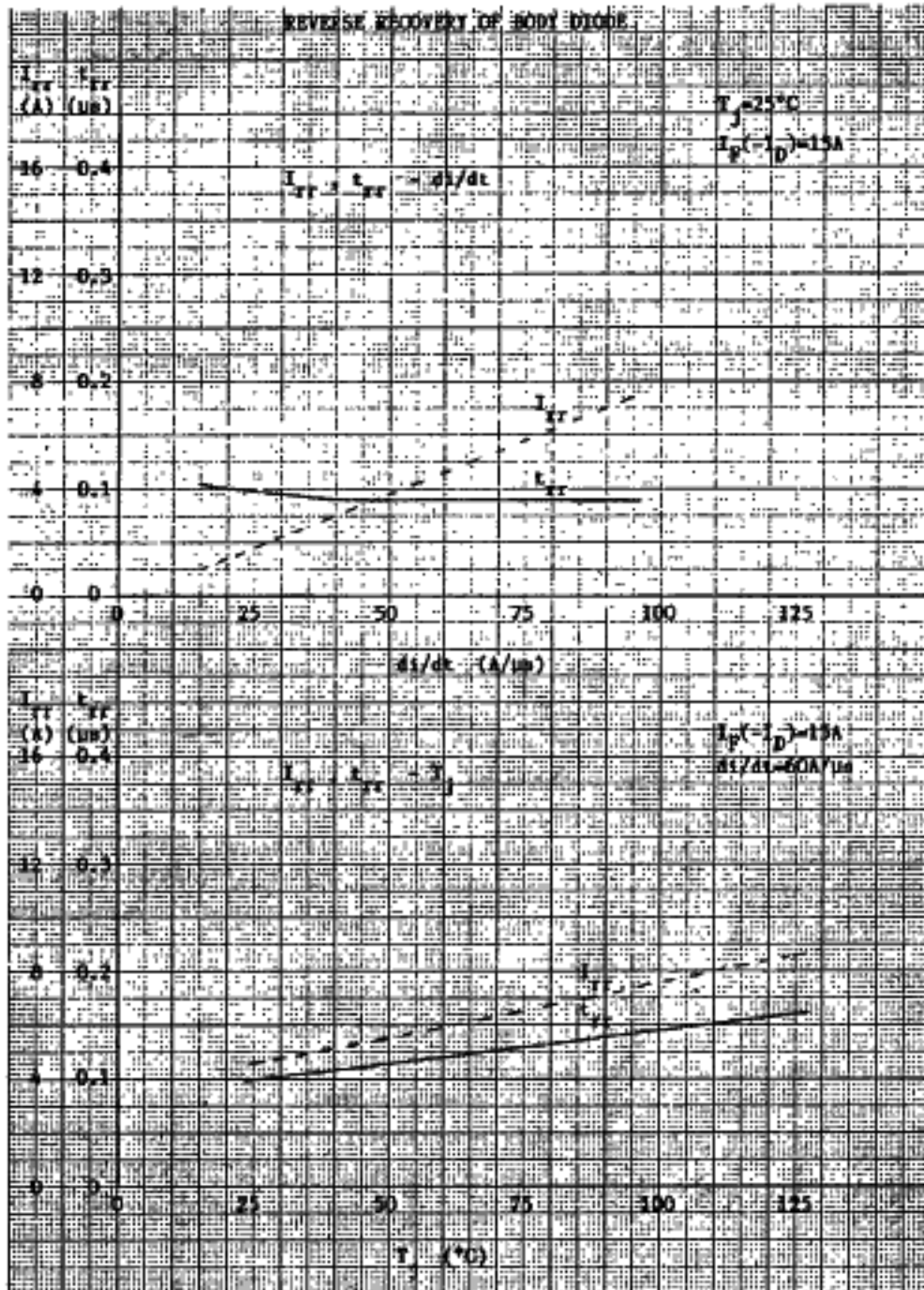
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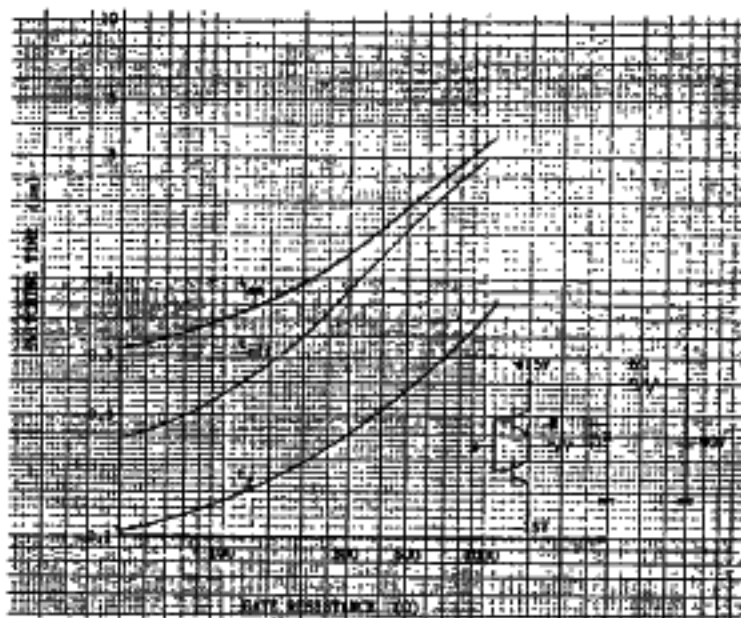


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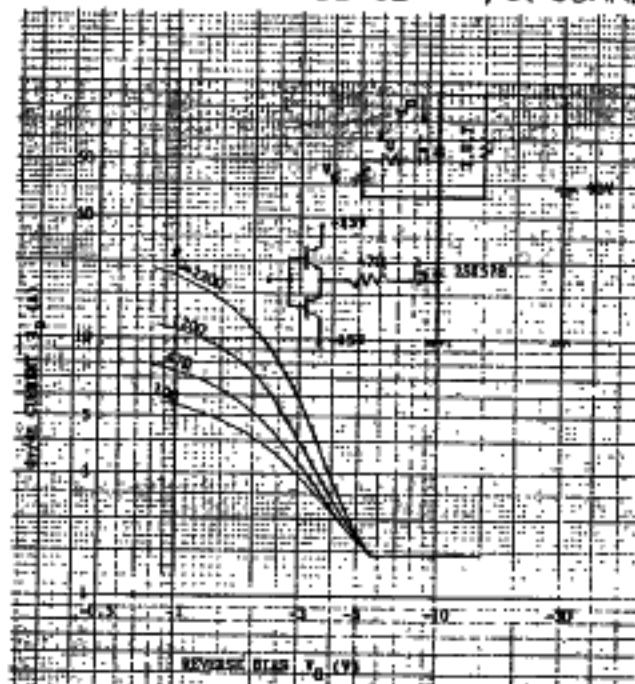
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GATE RESISTANCE DEPENDENCE OF SWITCHING TIME



REVERSE BIAS DEPENDENCE OF dy/dt CURRENT



TOSHIBA CORPORATION