

9097250 TOSHIBA (DISCRETE/OPTO)



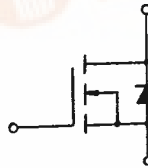
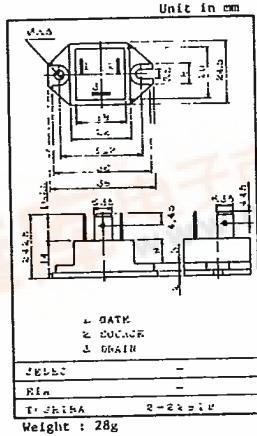
SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1 (450V/15A)
MG15G6EM1

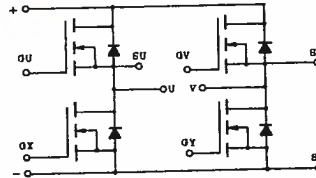
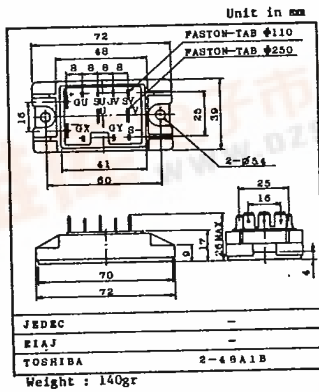
EQUIVALENT CIRCUIT

OUTLINE

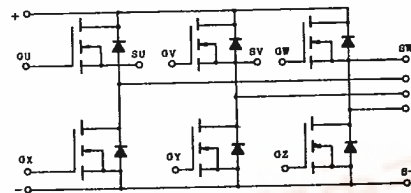
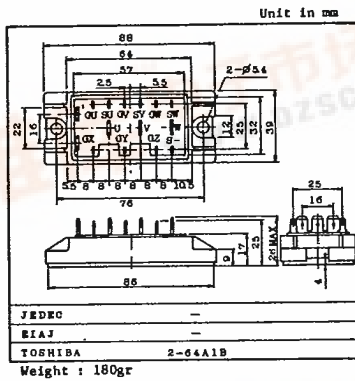
MG15G1AM1



MG15G4GM1



MG15G6EM1



TOSHIBA CORPORATION

GT1A2A





SEMICONDUCTOR

TECHNICAL DATA

MG15G1AM1

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MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V _{DSS}	450	V
Gate-Source Voltage	V _{GSS}	±20	V
Drain Current	DC	±15	A
	Peak	±30	
Drain Power Dissipation (Tc=25°C)	P _D	125	W
Channel Temperature	T _{ch}	150	°C
Storage Temperature Range	T _{stg}	-40 ~ 125	°C
Isolation Voltage	V _{isol}	2500 (AC 1 Minute)	V
Screw Torque	-	30	kg·cm

ELECTRICAL CHARACTERISTICS (Ta=25°C)

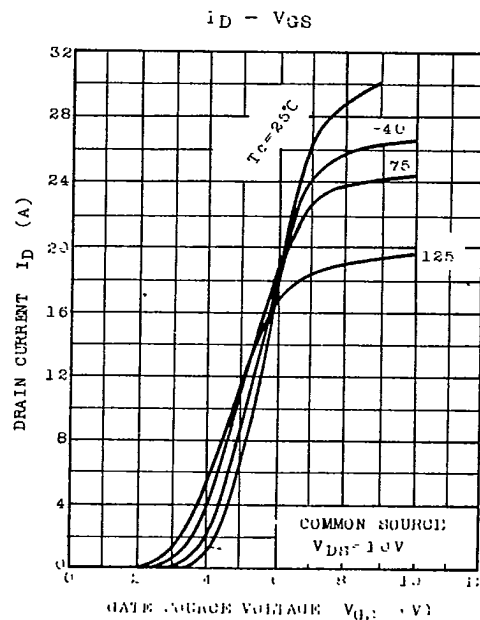
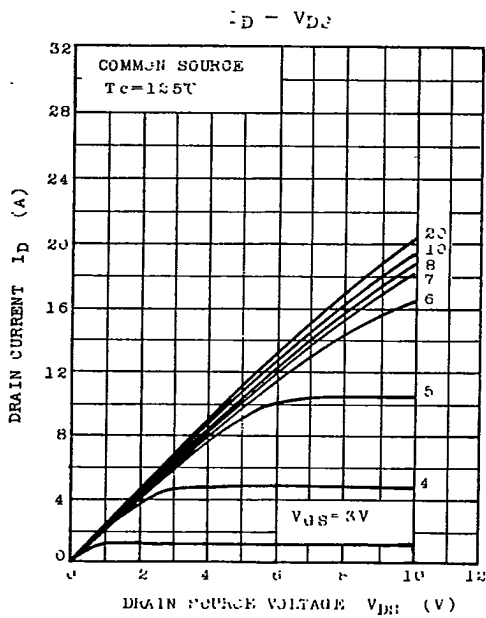
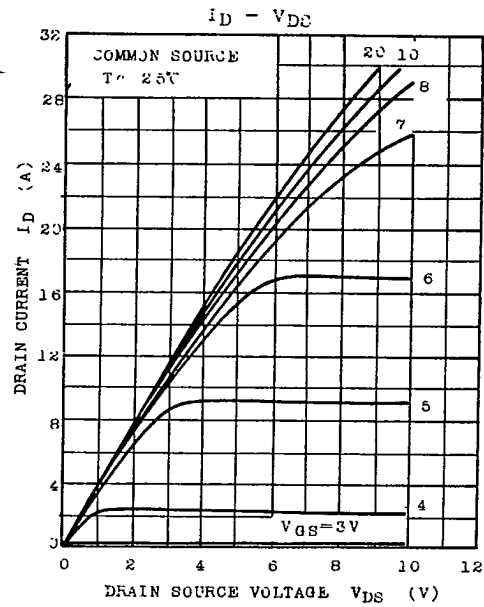
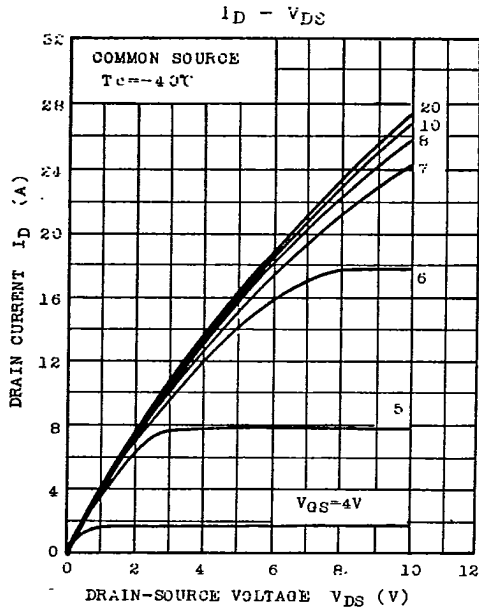
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0	-	-	±100	nA	
Drain Cut-off Current	I _{DSS}	V _{DS} =450V, V _{GS} =0	-	-	1.0	mA	
Drain-Source Breakdown Voltage	V(BR) _{DSS}	I _D =10mA, V _{GS} =0	450	-	-	V	
Gate Threshold Voltage	V _{th}	V _{DS} =10V, I _D =1mA	1.5	-	3.5	V	
Forward Transfer Admittance	Y _{fs}	V _{DS} =10V, I _D =15A	4.0	7.0	-	S	
Drain-Source ON Resistance	R _{DS(ON)}	I _D =15A, V _{GS} =10V	-	-	0.4	Ω	
Source Drain Forward Voltage	V _{SDF}	I _D =-15A, V _{GS} =0	-	-	1.8	V	
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0, f=1MHz	-	4500	-	pF	
Switching Time	Rise Time	t _r		-	250	500	ns
	Turn-on Time	t _{on}		-	300	600	ns
	Fall Time	t _f		-	250	500	ns
	Turn-off Time	t _{off}		V _{IN} : t _r , t _f < 5ns D.C. ≤ 1% (I _{OUT} = 50Ω)	-	1000	2000
Reverse Recovery Time	t _{rr}	I _D =-15A, R _G =220Ω V _{GS} =-15V, di/dt=60A/μs	-	300	600	ns	

TOSHIBA CORPORATION



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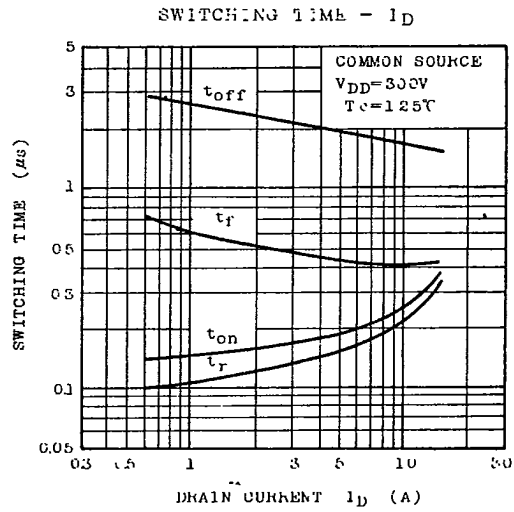
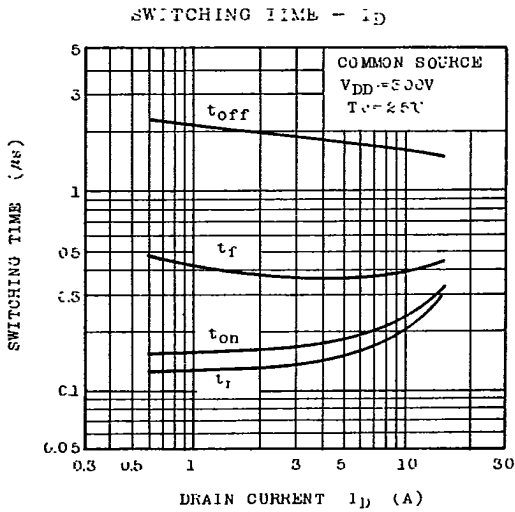
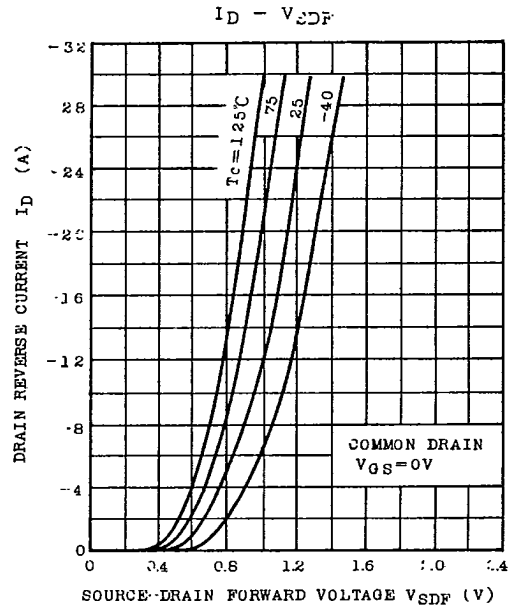
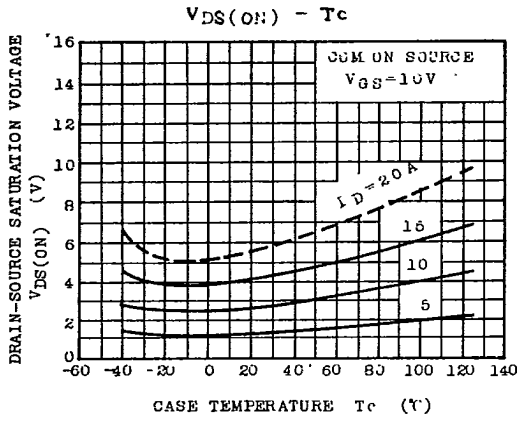


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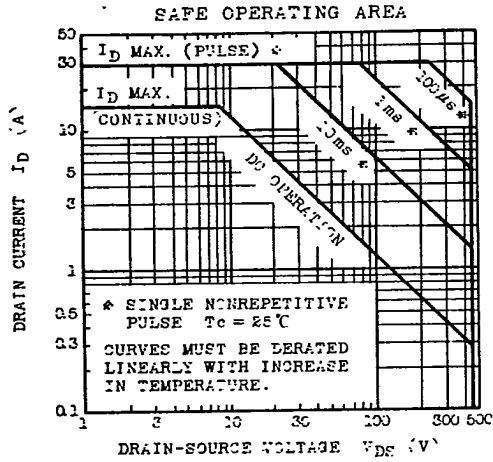


TOSHIBA CORPORATION

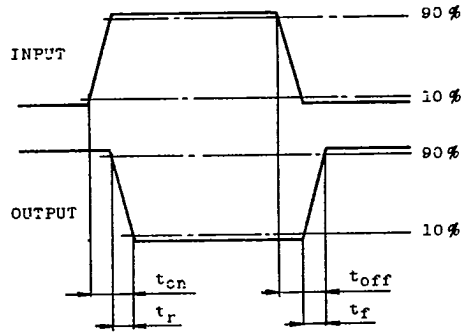


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SWITCHING TIME TEST (WAVEFORM)

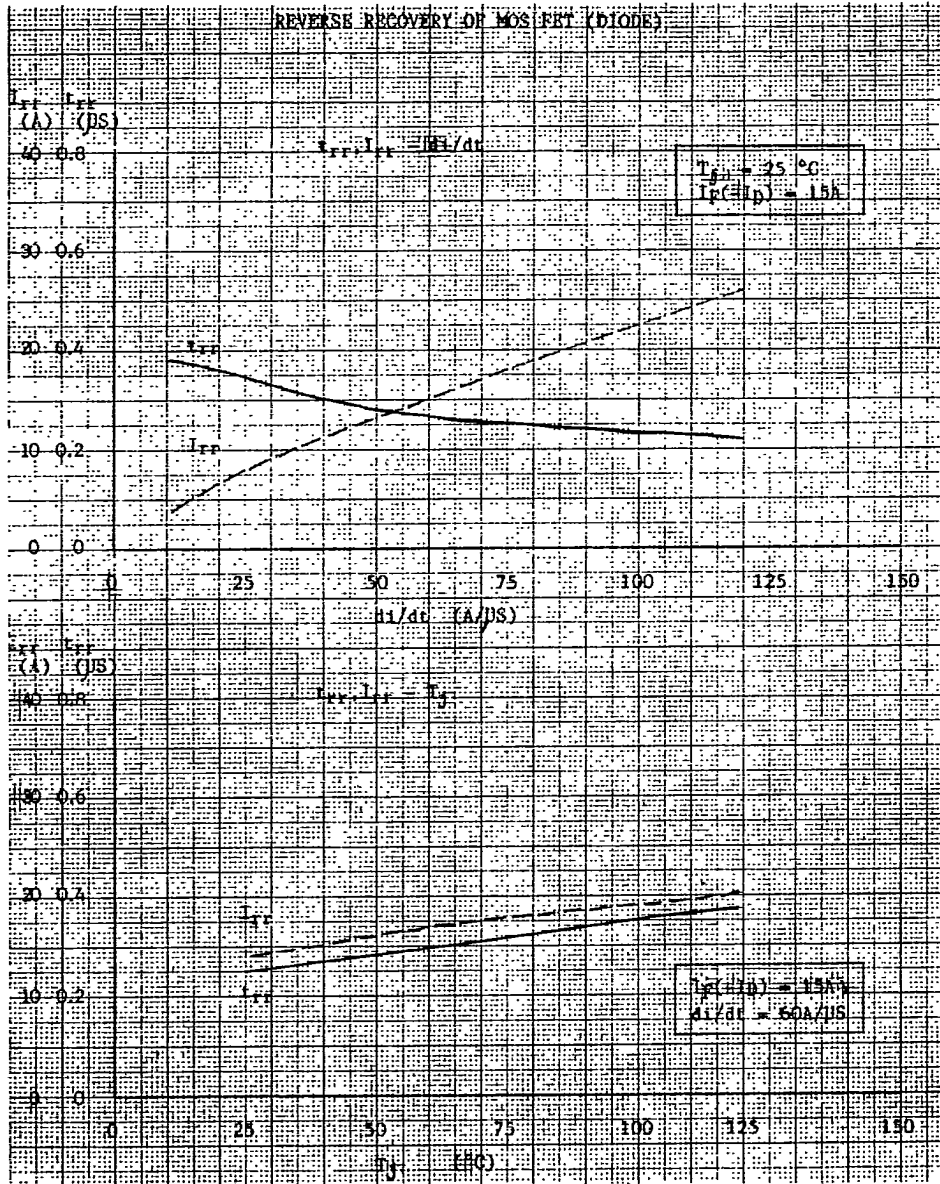


TOSHIBA CORPORATION



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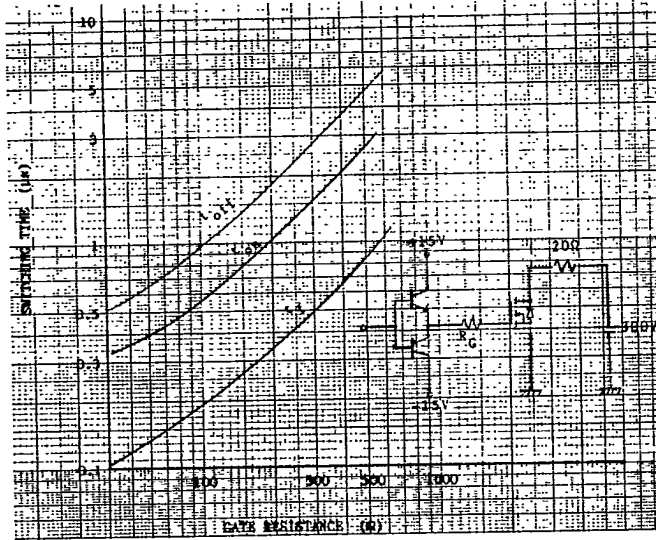


SEMICONDUCTOR

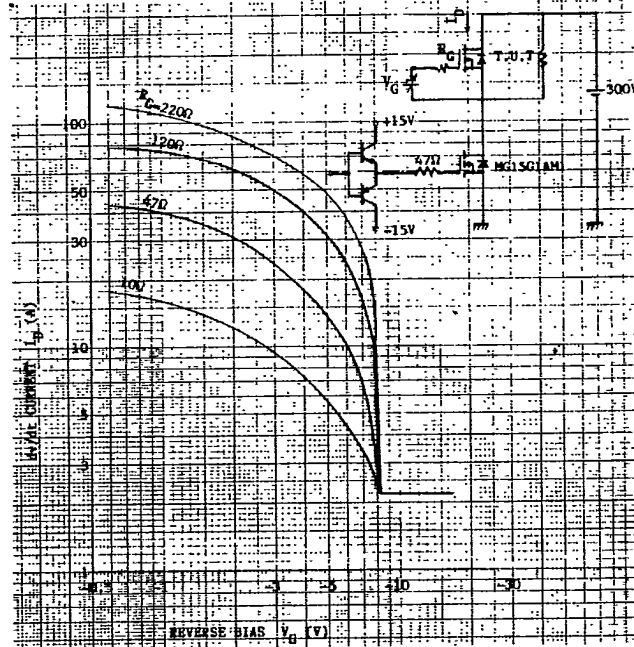
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GATE RESISTANCE — SWITCHING TIME



REVERSE BIAS — dv/dt CURRENT



TOSHIBA CORPORATION