www.DataSheet4U.com

Toshiba

SEMICONDUCTOR

TECHNICAL DATA

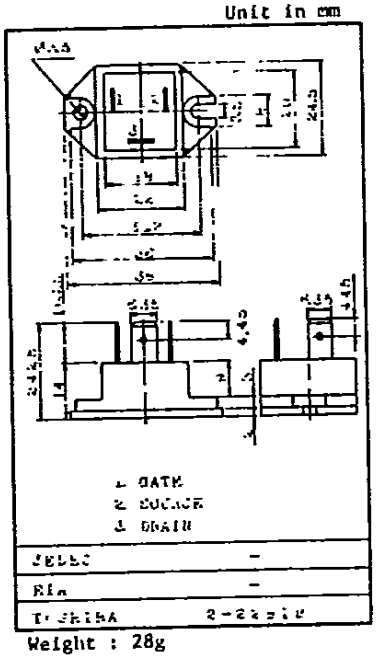
MG15G1AM1
MG15G4GM1 (450V/15A)
MG15G6EM1

EQUIVALENT CIRCUIT

OUTLINE

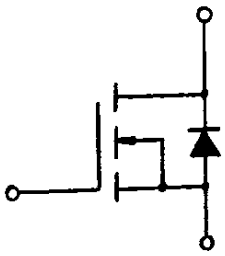
MG15G1AM1

Unit in mm



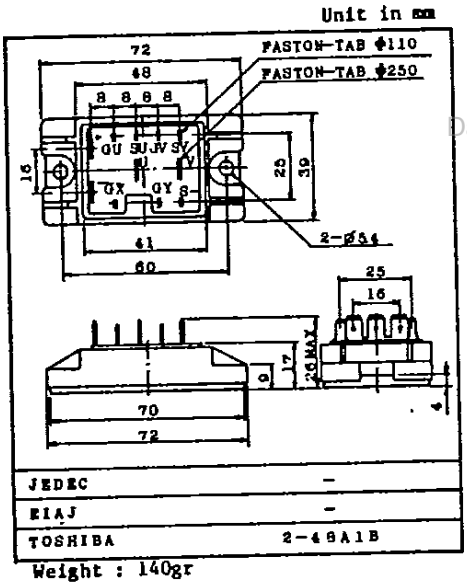
JEDEC	—
EIAJ	—
TOSHIBA	2-21A1B

Weight : 28g



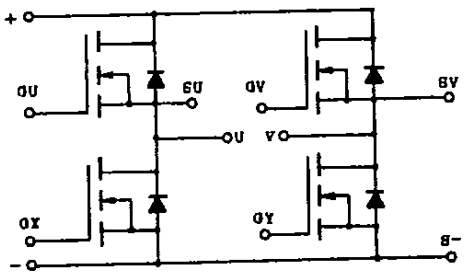
MG15G4GM1

Unit in mm



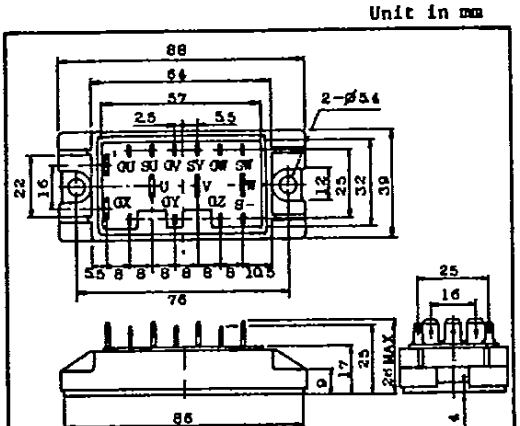
JEDEC	—
EIAJ	—
TOSHIBA	2-48A1B

Weight : 140gr



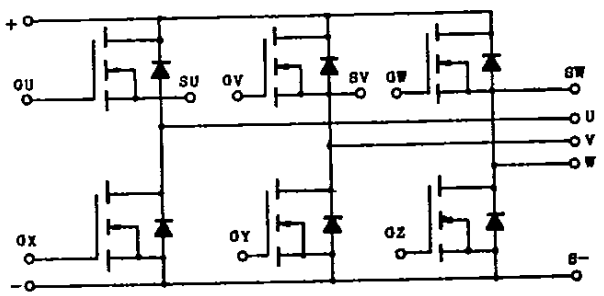
MG15G6EM1

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-64A1B

Weight : 180gr



DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com

www.DataSheet4U.com

Toshiba

SEMICONDUCTOR

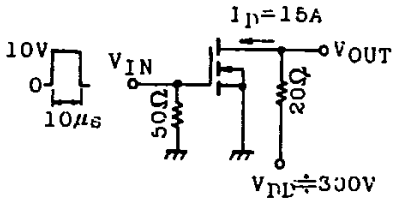
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

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	I_D	±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}		-	1000	2000	ns
Reverse Recovery Time		t_{rr}	I_D=-15A, R_G=220Ω V_{GS}=-15V, di/dt=60A/μs	-	300	600	ns

V_{IN} : t_r, t_f ≤5ns
D.C≦1% (R_{OUT}=50Ω)

DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com

www.DataSheet4U.com

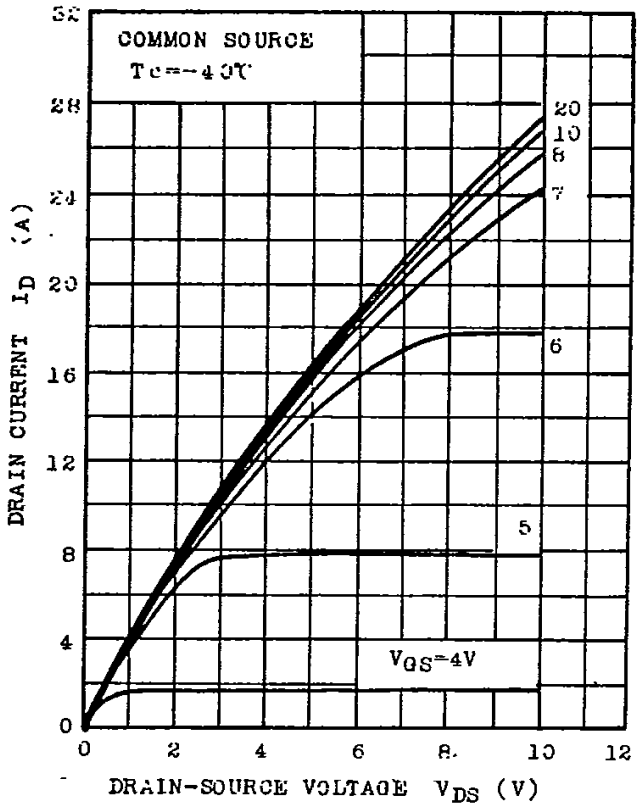
Toshiba

SEMICONDUCTOR

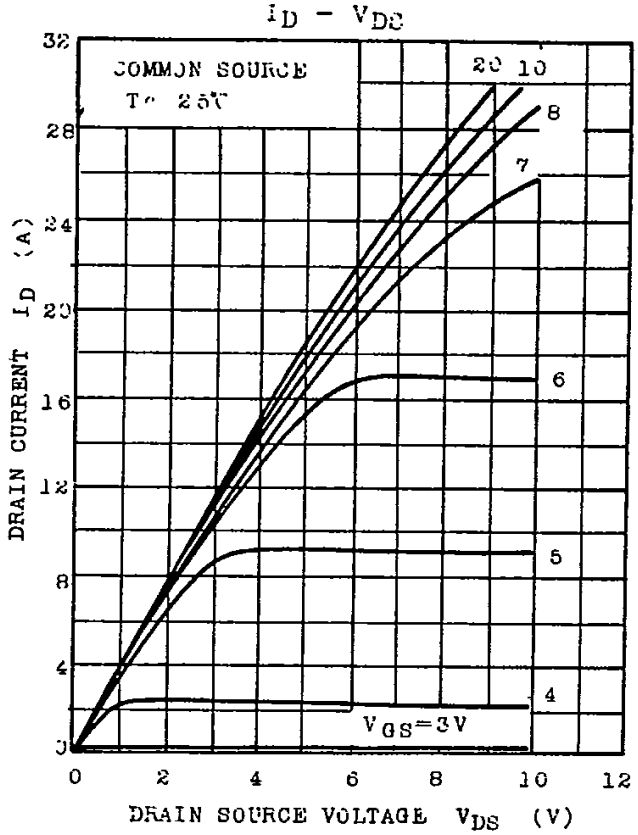
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

$I_D - V_{DS}$

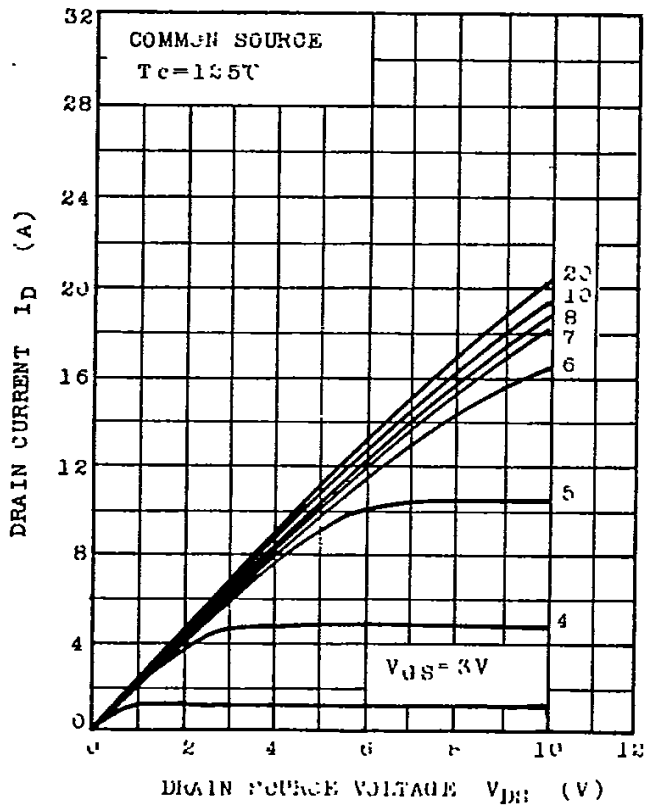


$I_D - V_{DS}$

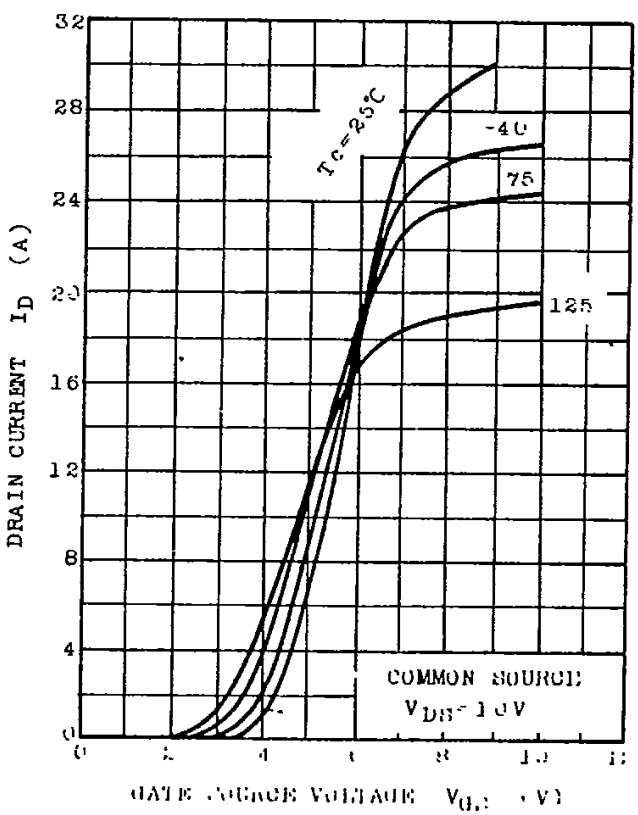


et4U.com DataSheet4U.com DataShee

$I_D - V_{DS}$



$I_D - V_{GS}$



DataSheet4U.com www.DataSheet4U.com

DataSheet4U.com

www.DataSheet4U.com

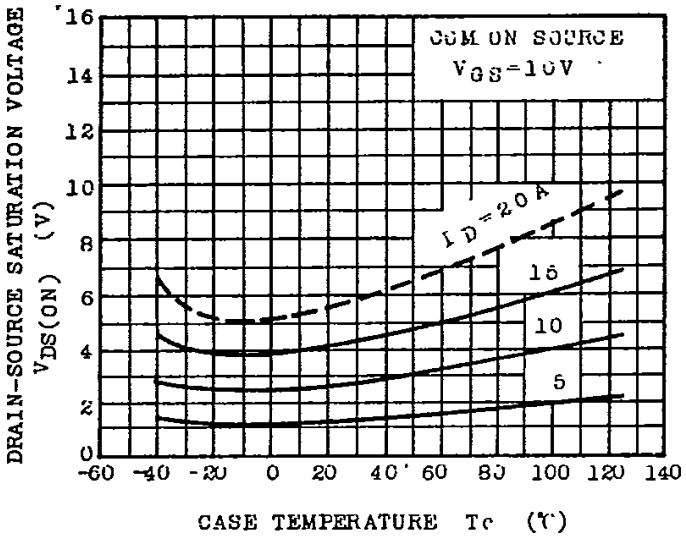
Toshiba

SEMICONDUCTOR

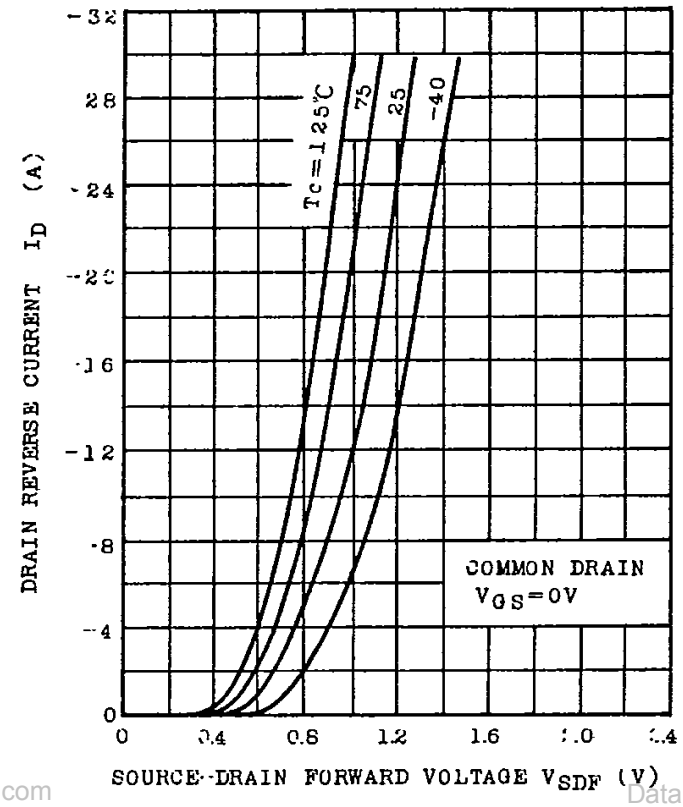
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

$V_{DS(ON)}$ - Tc

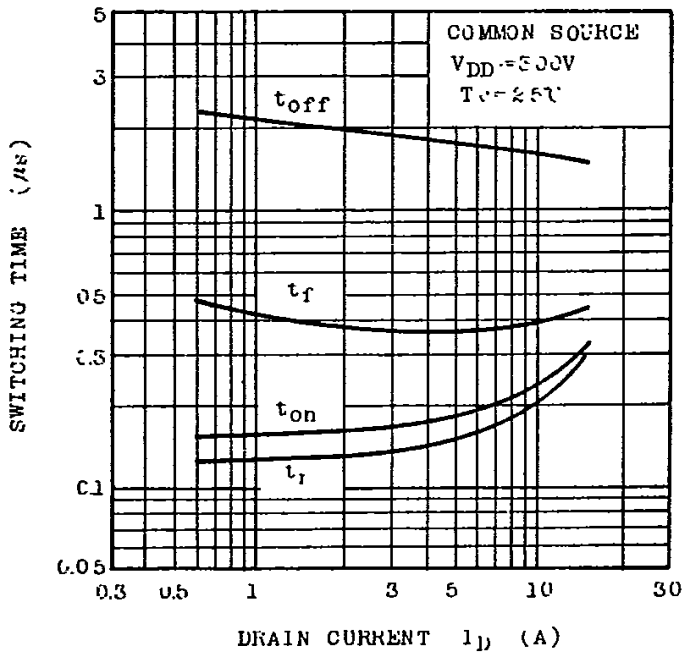


I_D - V_{SDF}

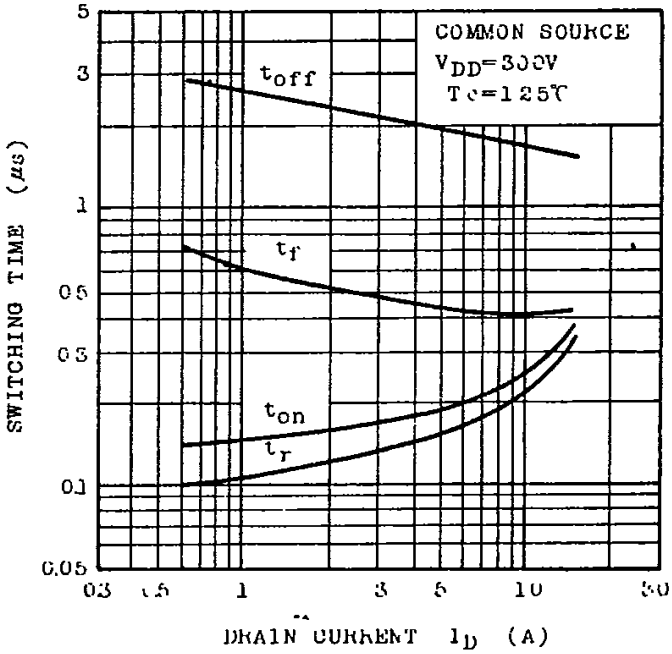


DataSheet4U.com

SWITCHING TIME - I_D



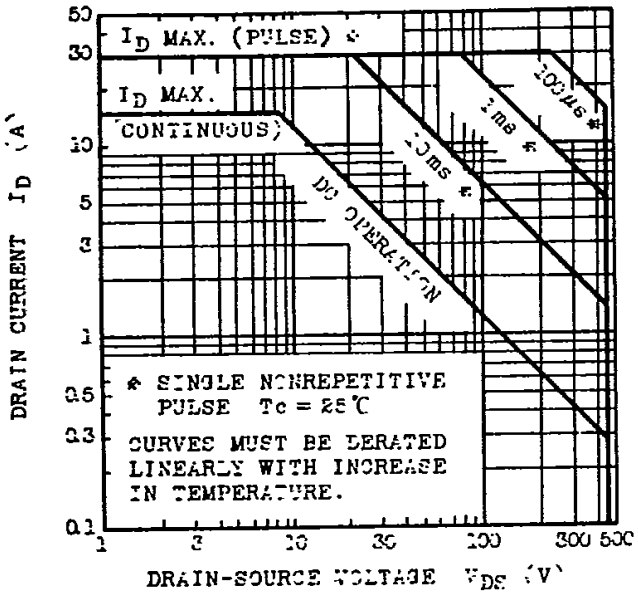
SWITCHING TIME - I_D



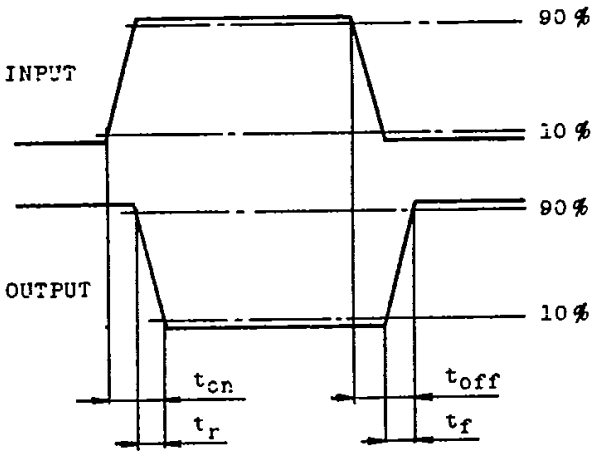
DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com

www.DataSheet4U.com

SAFE OPERATING AREA



SWITCHING TIME TEST (WAVEFROM)



DataSheet4U.com
DataSheet4U.com
DataSheet4U.com
DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com

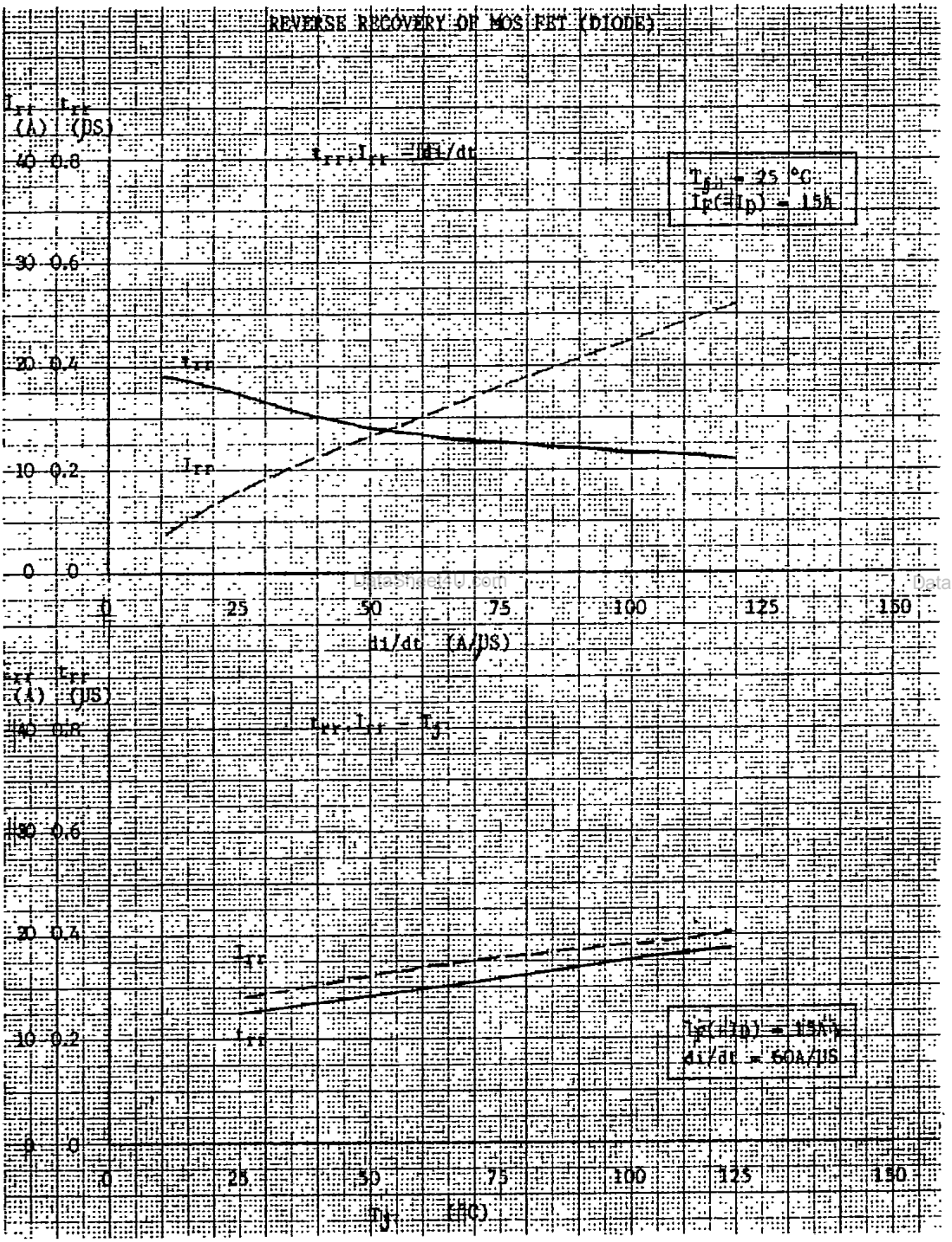
www.DataSheet4U.com

Toshiba

SEMICONDUCTOR

TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1



DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com

www.DataSheet4U.com

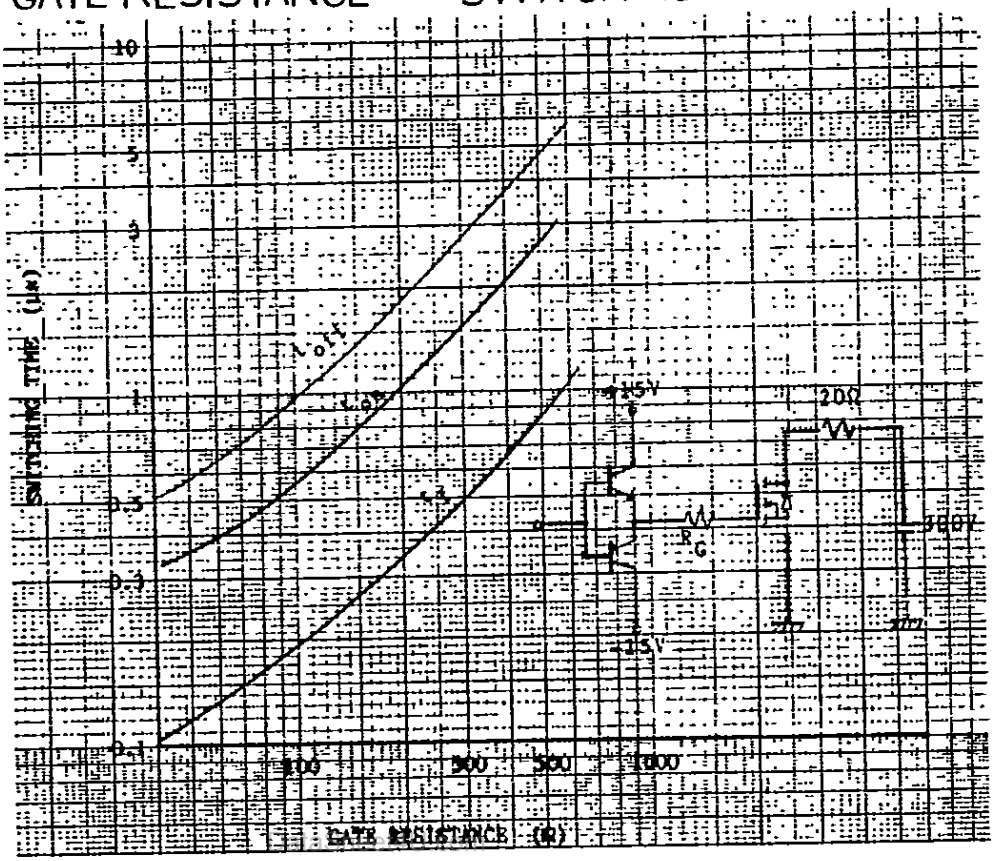
Toshiba

SEMICONDUCTOR

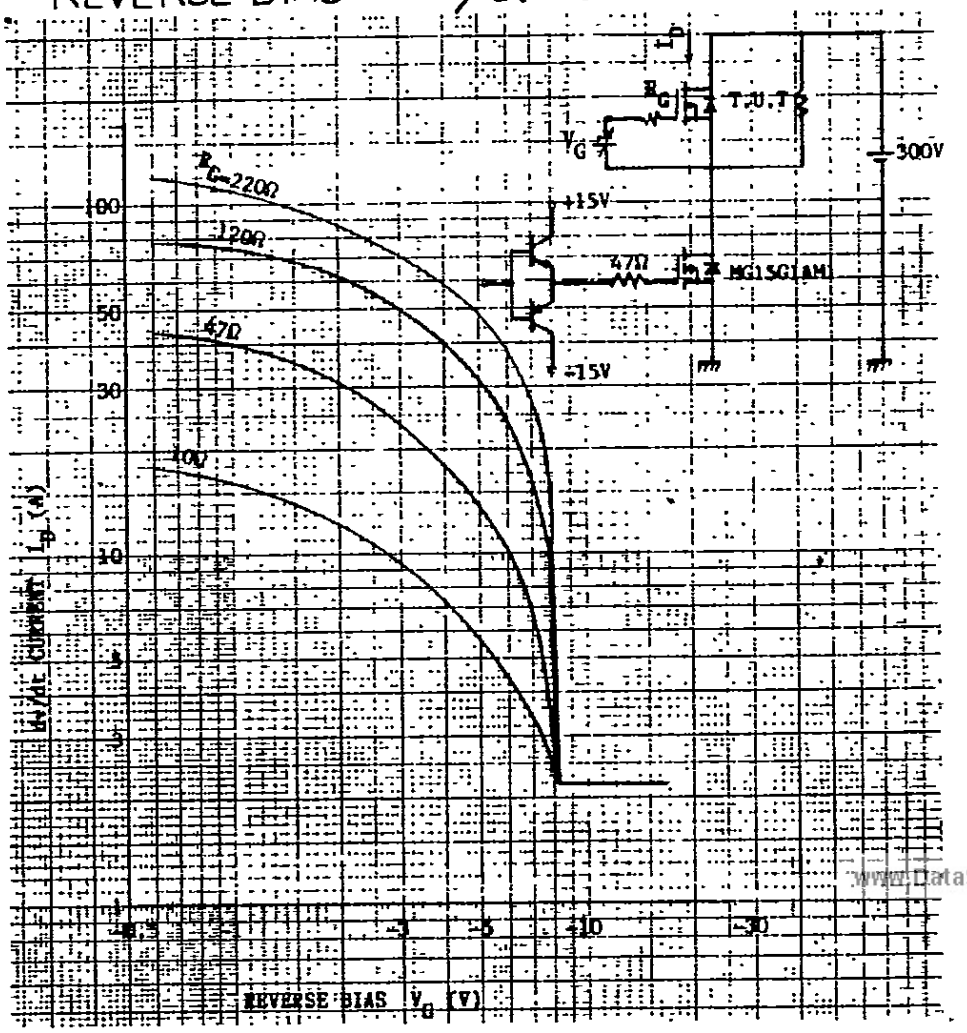
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

GATE RESISTANCE — SWITCHING TIME



REVERSE BIAS — dv/dt CURRENT



DataSheet4U.com
www.DataSheet4U.com
DataSheet4U.com