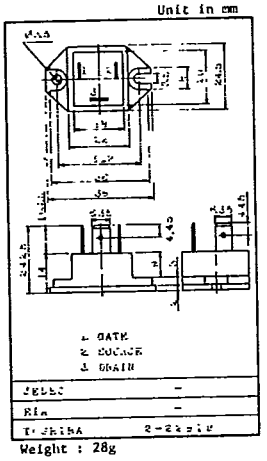
SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1 (450V/15A)
MG15G6EM1

OUTLINE

MG15G1AM1

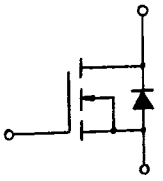
Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-22B1B

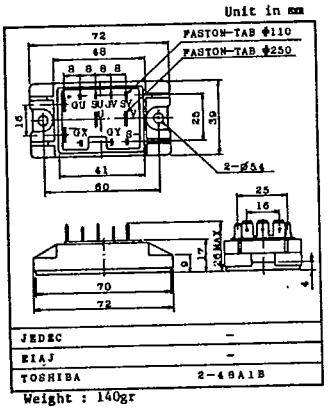
Weight : 28g

EQUIVALENT CIRCUIT



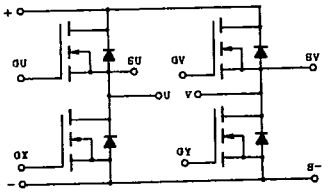
MG15G4GM1

Unit in mm



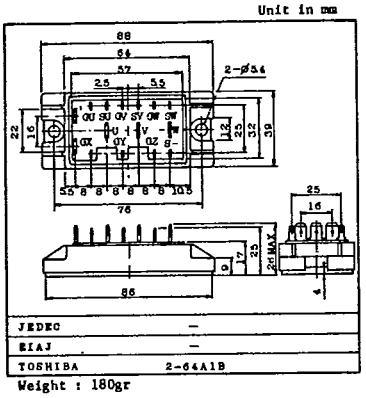
JEDEC	—
EIAJ	—
TOSHIBA	2-48A1B

Weight : 140gr



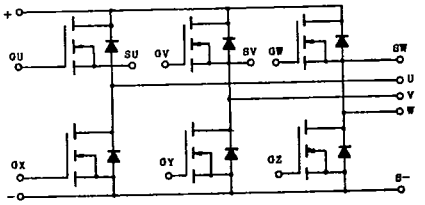
MG15G6EM1

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-64A1B

Weight : 180gr



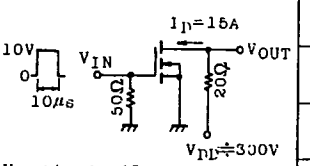
SEMICONDUCTOR
TECHNICAL DATA

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)

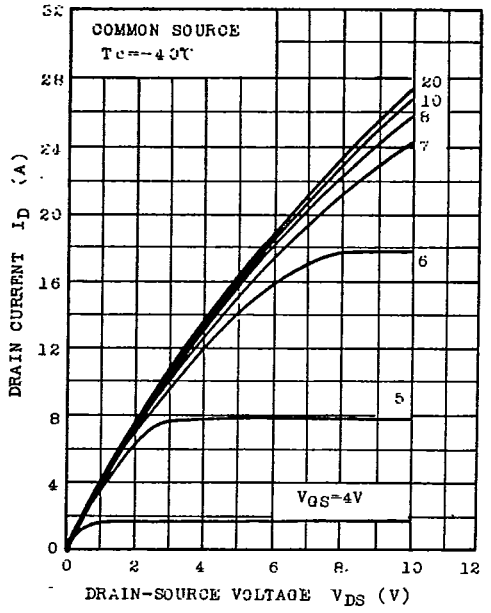
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	V_{GS}=±20V, V_{DS}=0	−	−	±100	nA
Drain Cut-off Current		I_{DSS}	V_{DS}=450V, V_{GS}=0	−	−	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0	450	−	−	V
Gate Threshold Voltage		V_{th}	V_{DS}=10V, 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		Ciss	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% (Z_{OUT}=50Ω)

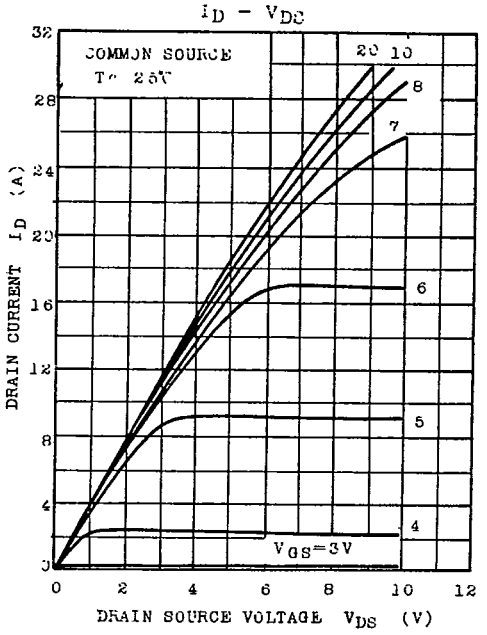
SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

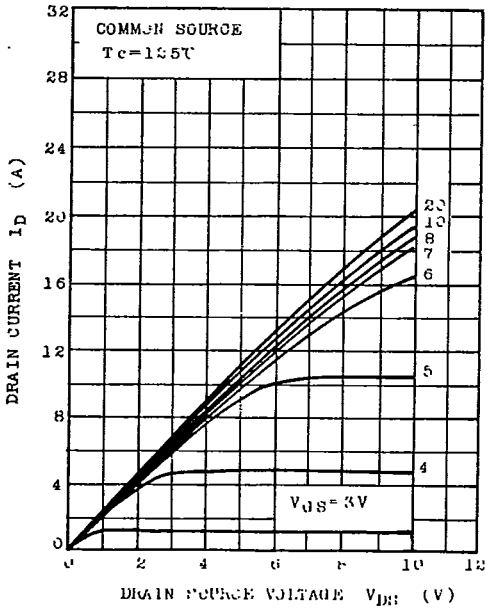
$I_D - V_{DS}$



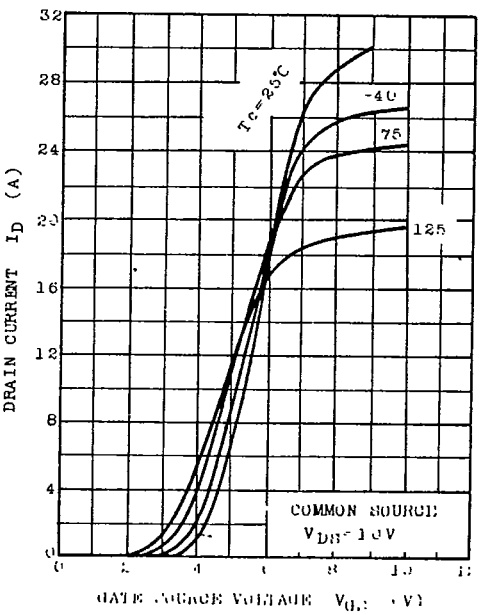
$I_D - V_{DS}$



$I_D - V_{DS}$



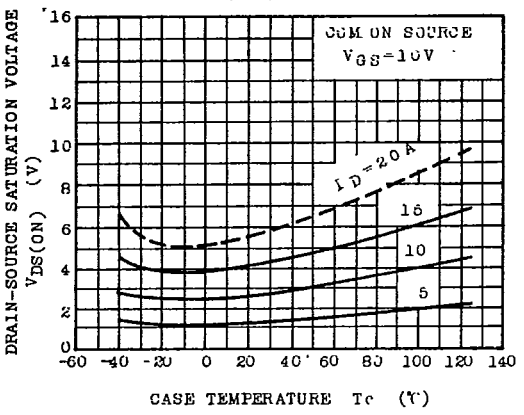
$I_D - V_{GS}$



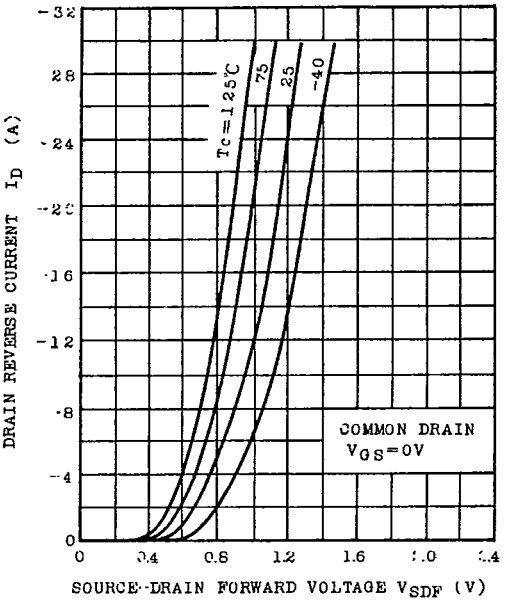
SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

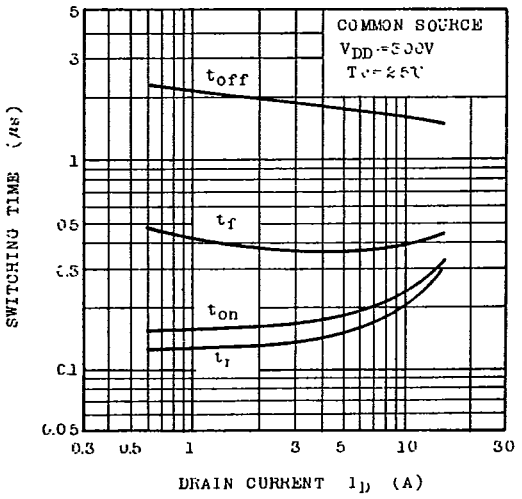
$V_{DS(ON)}$ - Tc



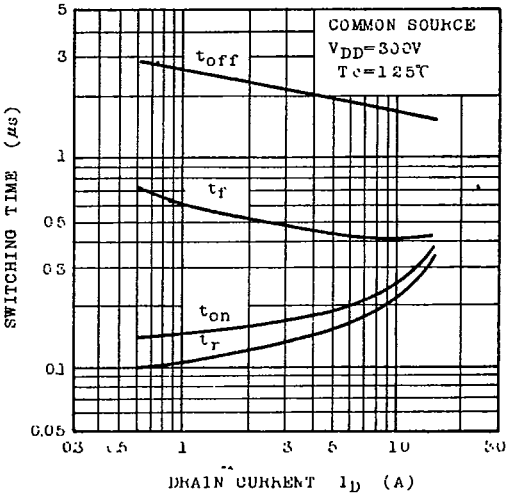
I_D - V_{SDF}



SWITCHING TIME - I_D



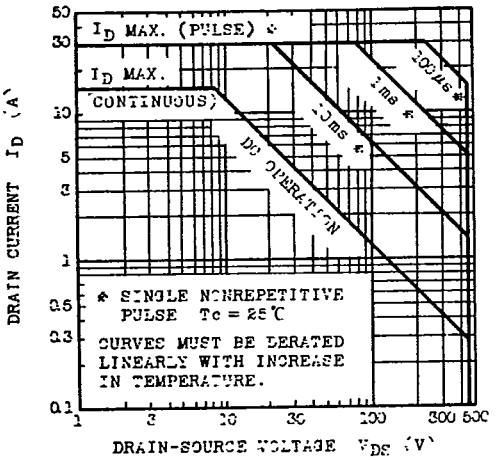
SWITCHING TIME - I_D



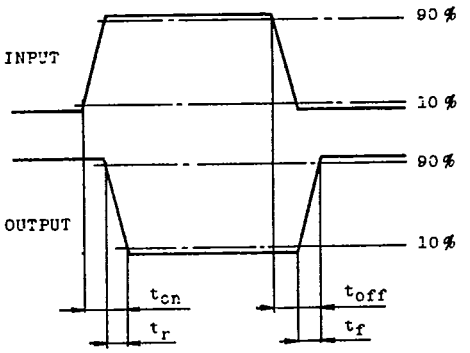
SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

SAFE OPERATING AREA

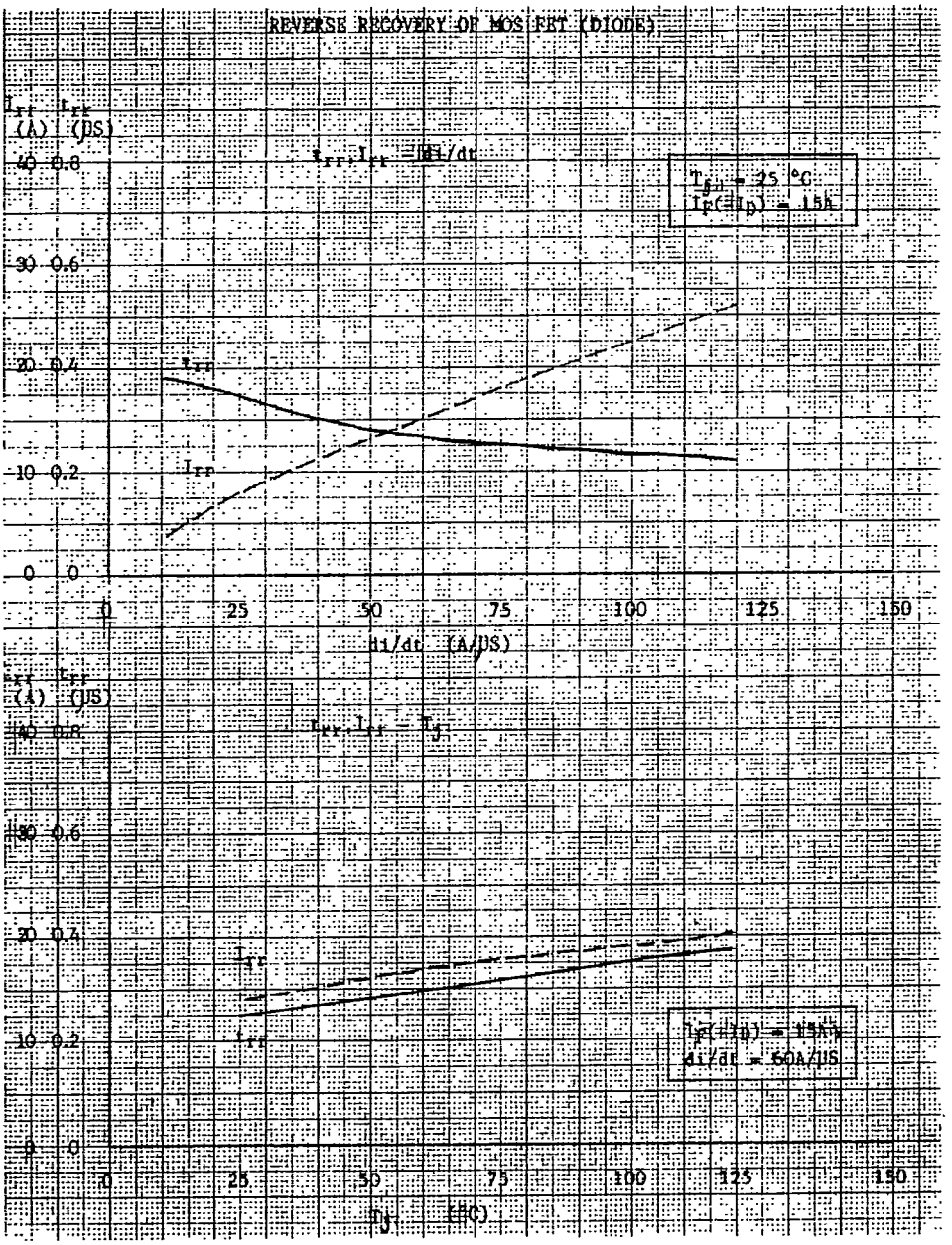


SWITCHING TIME TEST (WAVEFROM)



SEMICONDUCTOR
TECHNICAL DATA

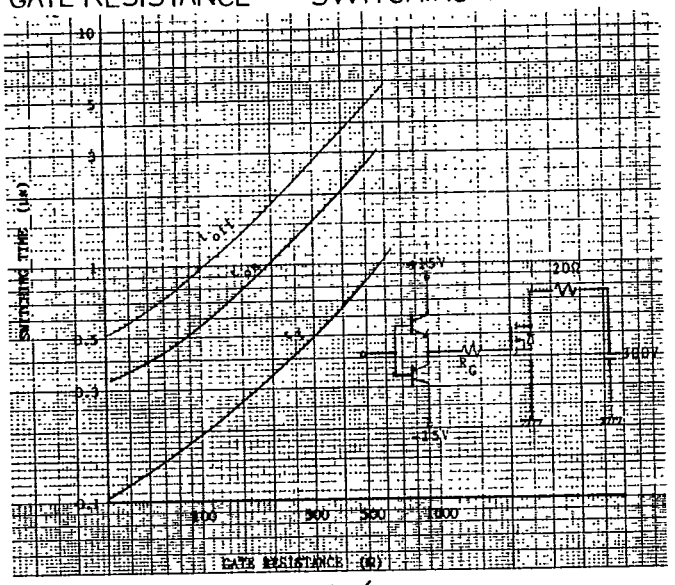
MG15G1AM1
MG15G4GM1
MG15G6EM1



SEMICONDUCTOR
TECHNICAL DATA

MG15G1AM1
MG15G4GM1
MG15G6EM1

GATE RESISTANCE — SWITCHING TIME



REVERSE BIAS — dv/dt CURRENT