SPECIFICATION

Device Name	:	Power MOSFET
Type Name	:	2SK3264-01MR
Spec. No.	:	MS5F4412

Fuji Electric Co.,Ltd.

Matsumoto Factory

	DATE	NAME	APPROVED
DRAWN	'98-09-29	C. Ota	
CHECKED	'98-09-29	K. Yamaguchi	

Fuji Electric Co.,Ltd.

DWG.NO MS5F4412 12/12

1. Scope This specifies Fuji power MOSFET 2SK3264-01MR

2. Construction N -channel enhancement mode power MOSFET

3. Application for switching

4. Outview TO-220F Outview See to 3 / 12 page

5. Absolute maximum ratings at Tc=25°C (unless otherwise specified)

Description	Symbol	Characteristics	Unit	Remarks
Drain-source voltage	V_{DS}	800	V	
Continuous Drain current	I_D	± 7	A	
Pulse drain current	I_{Dpulse}	± 28	A	
Gate-source voltage	V_{GS}	± 35	V	
Repetitive or non-repetitive	I_{AR}	7	A	Tch ≦150°C
Avalanche energy	E_{AS}	378.3	mJ	See page 12 / 12 *
Maximum power dissipation	P_D	60	W	
Operating and storage temperature range	Tch	150	°C	
	Tstg	-55 ~ +150	°C	

*L= 14.2mH, Vcc= 80V

6. Electrical characteristics at Tc=25°C (unless otherwise specified)

Static ratings

Description	Symbol	Conditions		Characteristics Min.	Typ.	Max.	Unit
Drain-source breakdown voltage	BV_{DSS}	I_D= 1 mA V_{GS}=0V		800			V
Gate threshold voltage	$V_{GS(th)}$	I_D= 1 mA V_{DS}=V_{GS}		3.5	4	4.5	V
Zero gate voltage drain	I_{DSS}	V_{DS}= 800 V V_{GS}=0V	Tch=25°C		10	500	μA
	I_{DSS}		Tch=125°C		0.2	1	mA
Gate-source leakage current	I_{GSS}	V_{GS}= ± 35 V V_{DS}=0V			10	100	nA
Drain-source on-state resistance	$R_{DS(on)}$	I_D= 3.5A V_{GS}= 10V			1.62	2	Ω

Dynamic ratings

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Forward transconductance	gfs	ID = 3.5A VD = 25V	2	4		S
Input capacitance	Ciss	VDS= 25V VGS=0V f=1MHz		900	1350	pF
Output capacitance	Coss			130	200	
Reverse transfer capacitance	Crss			70	110	
Turn-on time	td(on)	VCC = 600V VGS = 10V ID = 7A RG = 10Ω		25	40	nS
	tr			90	140	
Turn-off time	td(off)			80	120	
	tf			50	80	

Reverse diode

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Avalanche capability	IAV	L= 14.2mH Tch= 25℃ * See Fig1 and 2	7			A
Diode forward on-voltage	VSD	IF = 2XID VGS=0V, Tch=25℃		1	1.5	V
Reverse recovery time	trr	IF = ID VGS=0V -diF/dt= 100A/μs Tch=25℃		900		ns
Reverse recovery charge	Qrr			10		μC

7. Thermal resistance

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Thermal resistance	Rthch -c				2.083	℃/W
	Rthch -a				62.5	℃/W

Fig.1 Test circuit

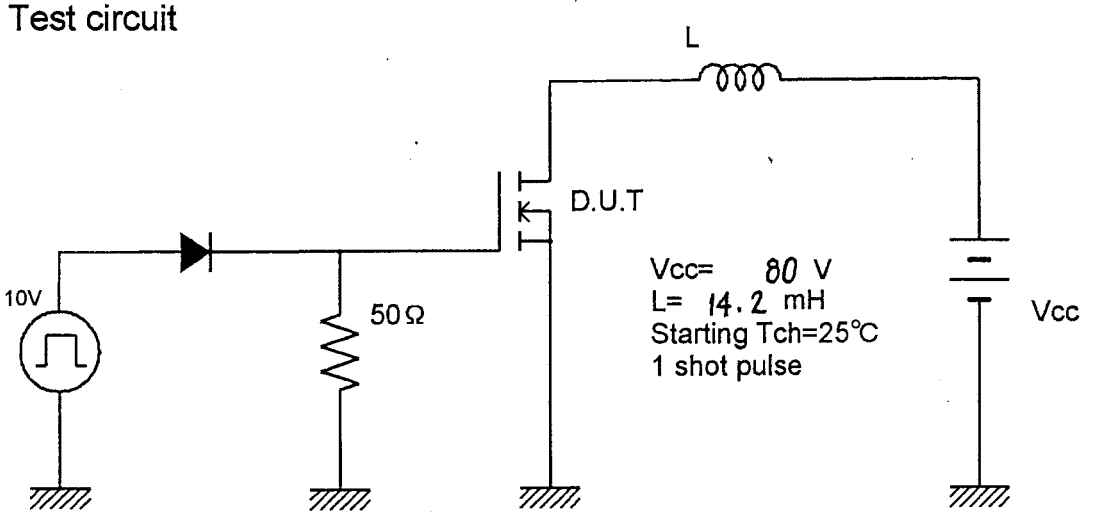
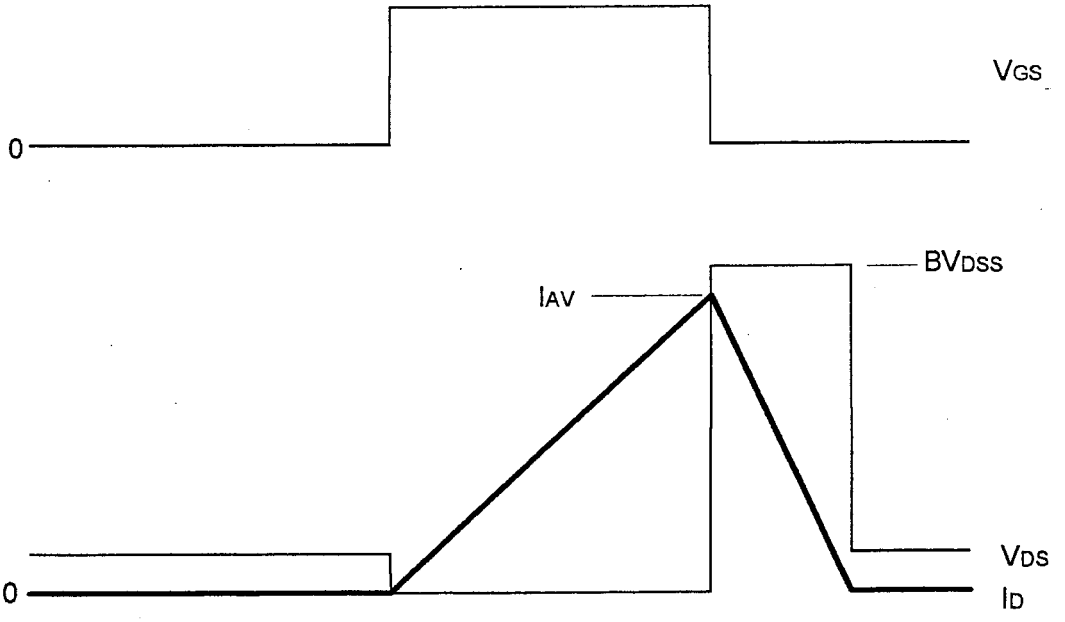
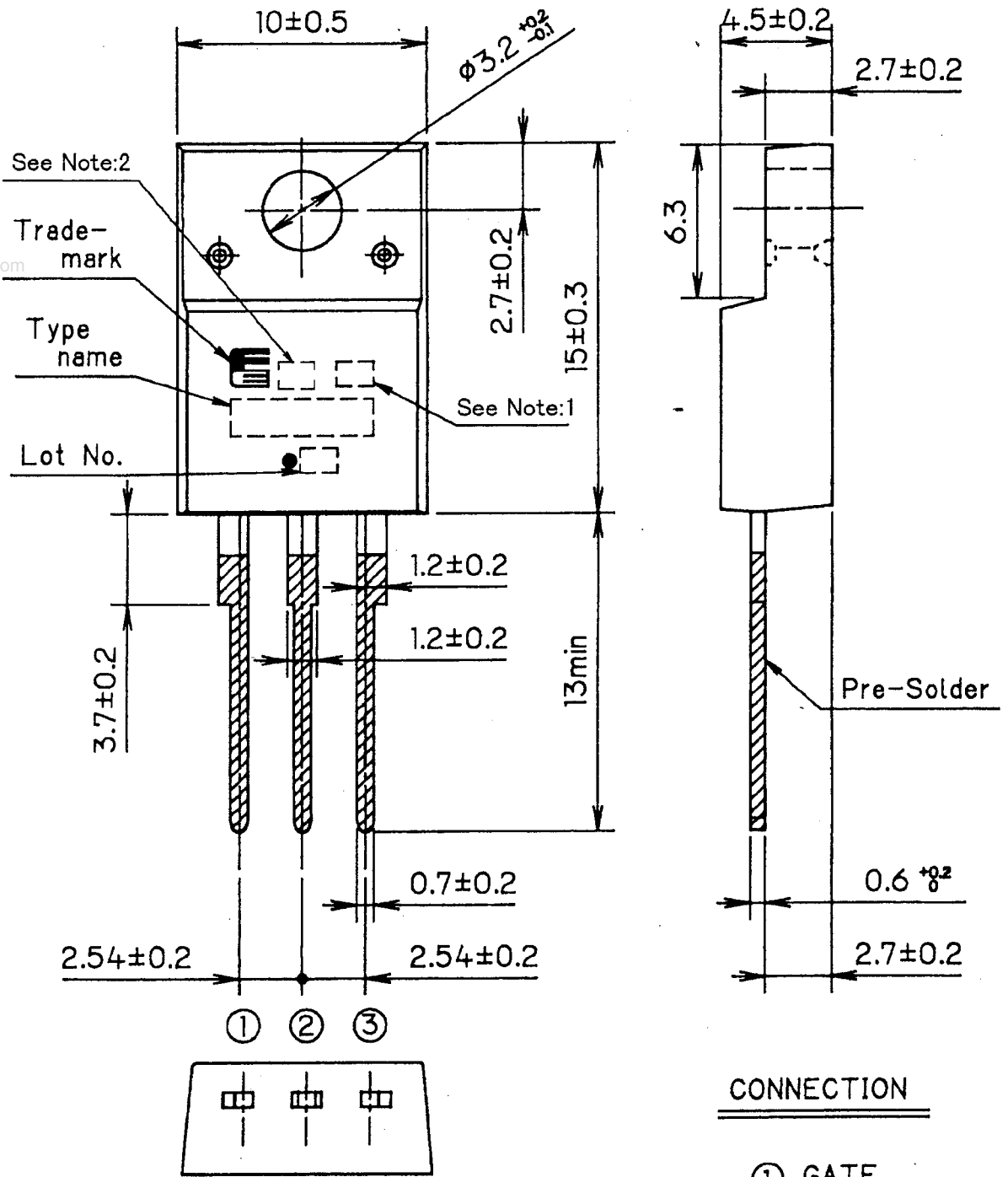


Fig.2 Operating waveforms



FUJI POWER MOS FET

TYPE : 2SK3264-01MR



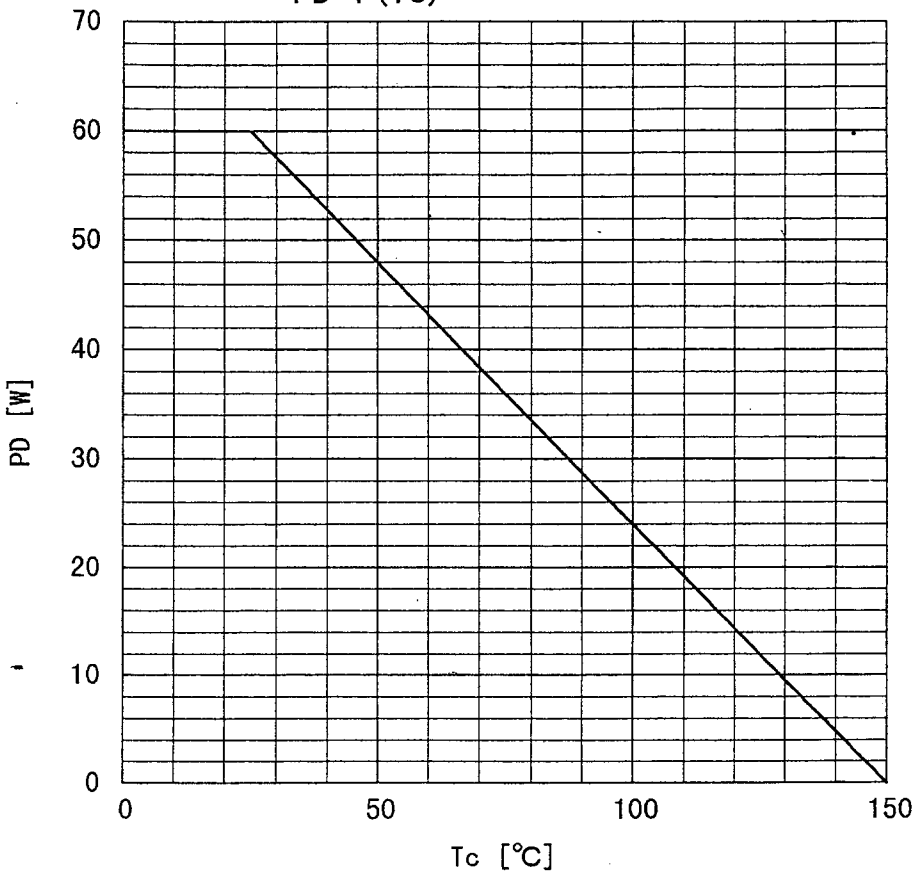
Note: 1. Guaranteed mark of avaranche ruggedness.
2. Country of origin mark.
No mark is Made in JAPAN.
『P』is Made in PHILIPPINES.

CONNECTION

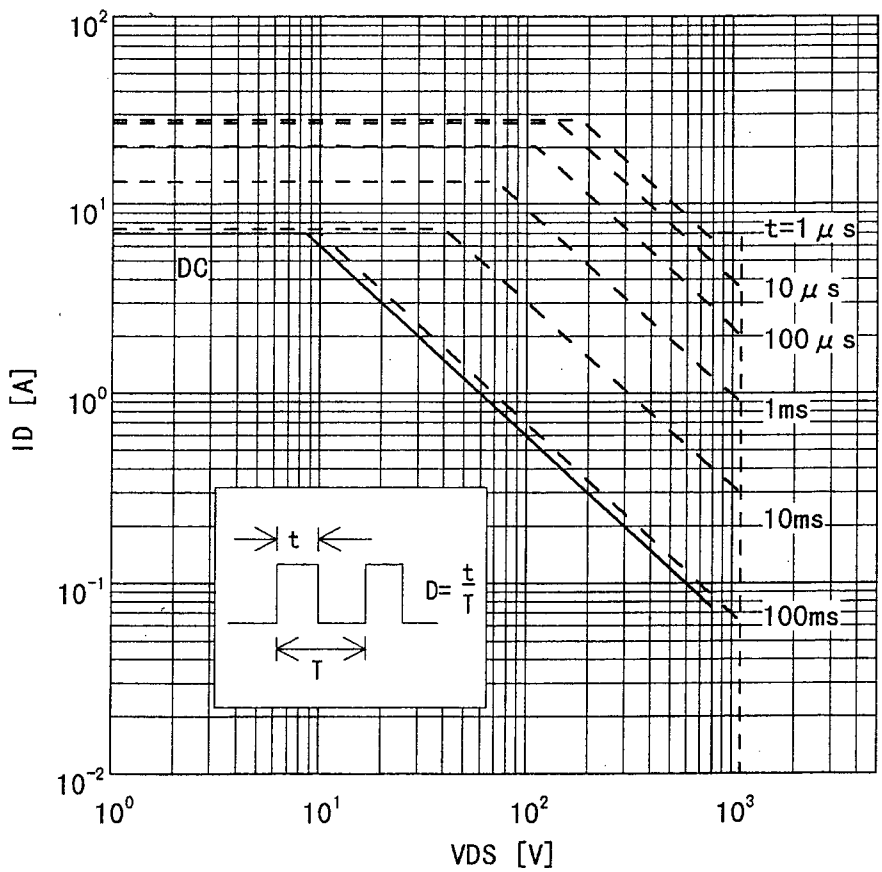
① GATE
② DRAIN
③ SOURCE

DIMENSIONS ARE IN MILLIMETERS.

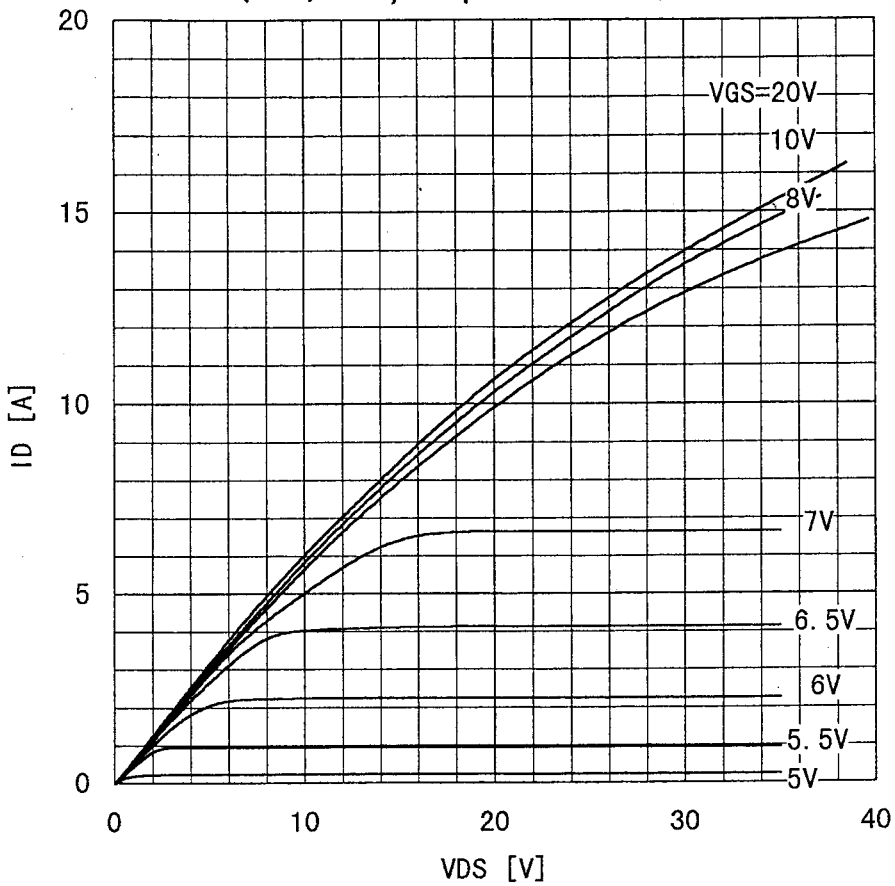
Power Dissipation
PD=f(Tc)



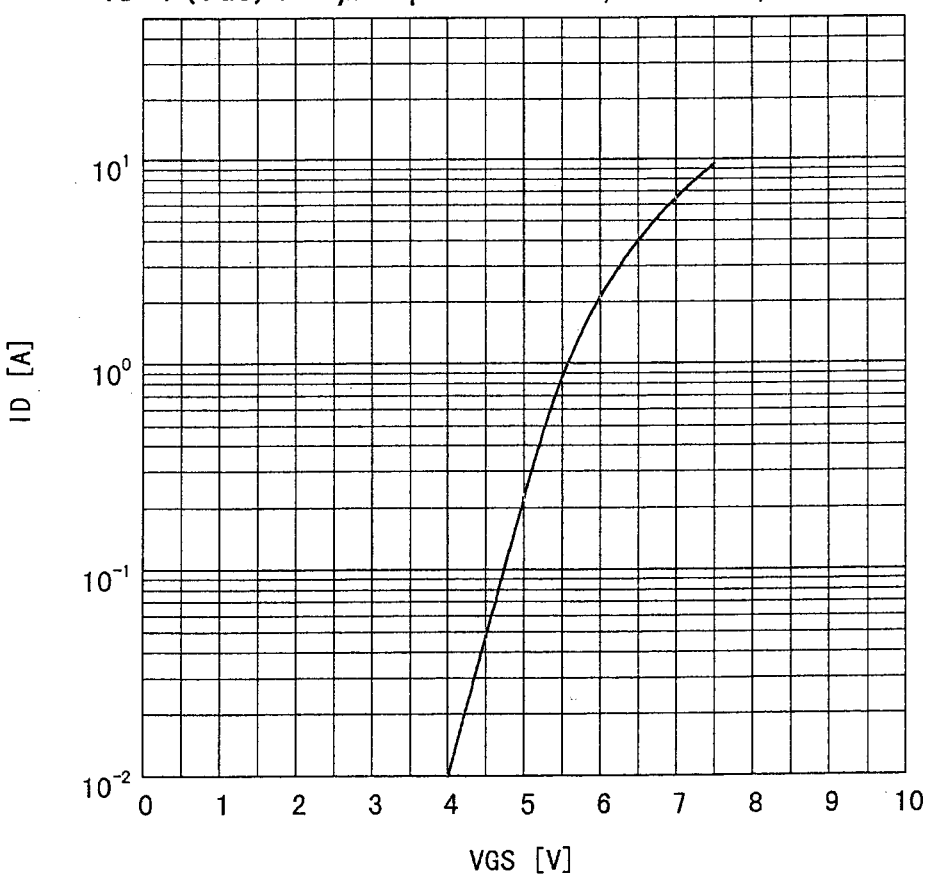
Safe operating area
ID=f(VDS) : D=0.01, Tc=25°C



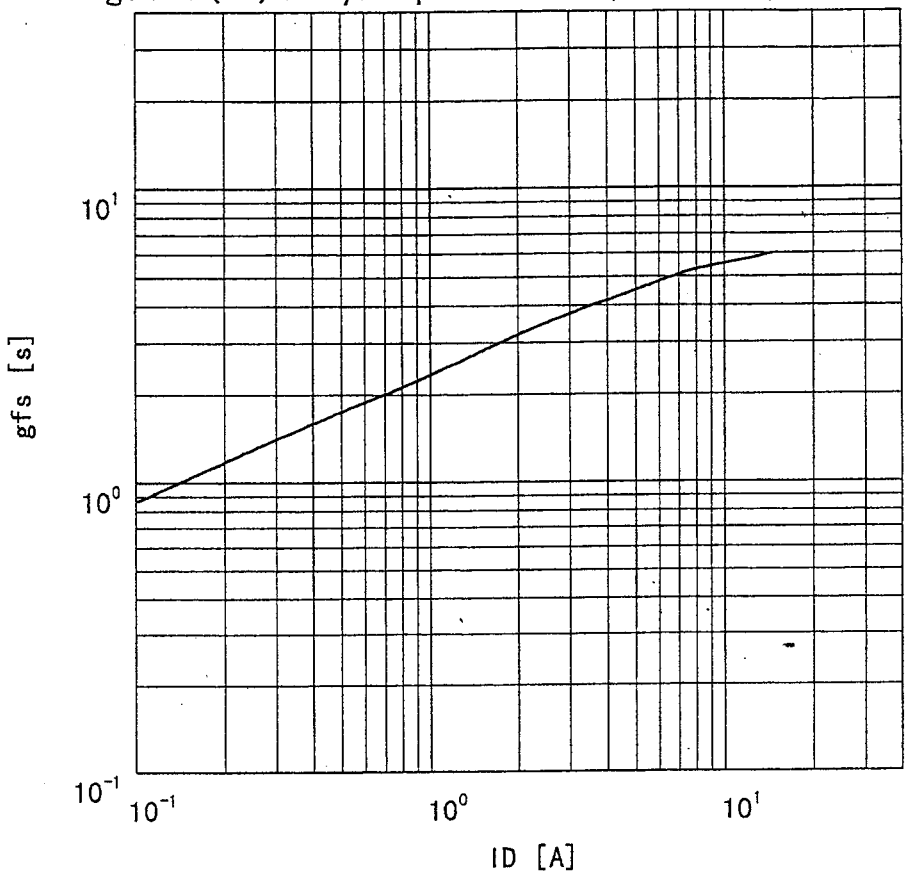
Typical output characteristics
ID=f(VDS) : 80μs pulse test, Tc=25°C



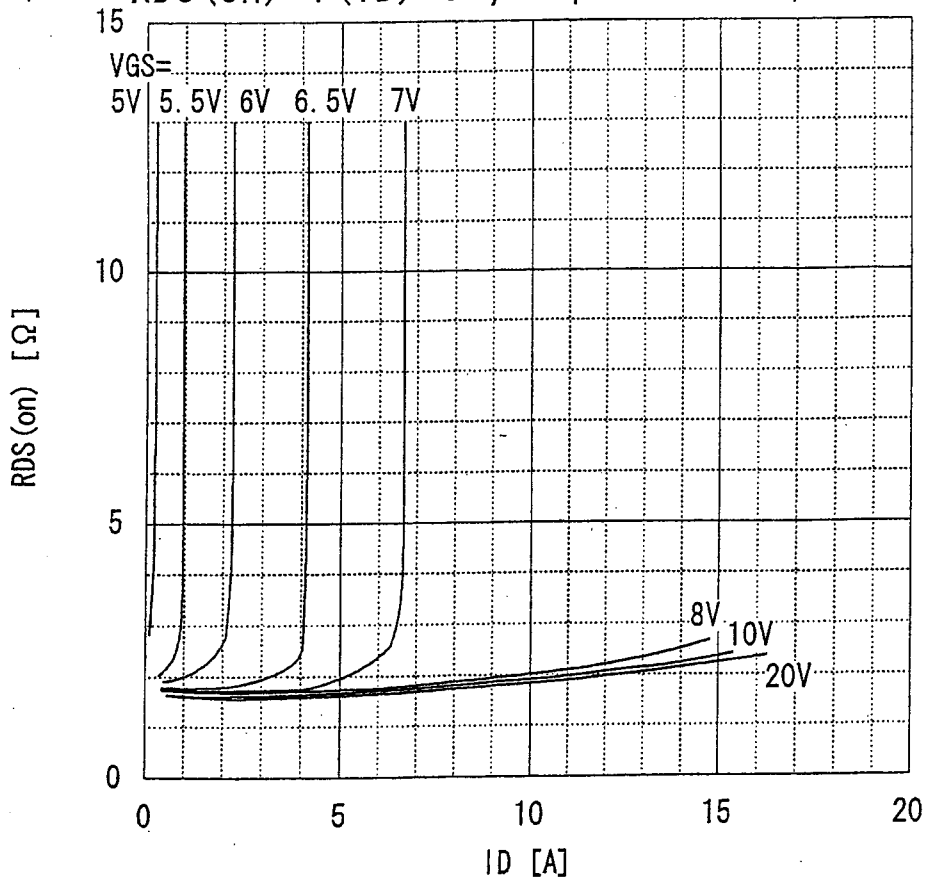
Typical transfer characteristic
ID=f(VGS) : 80μs pulse test, VDS=25V, Tch=25°C



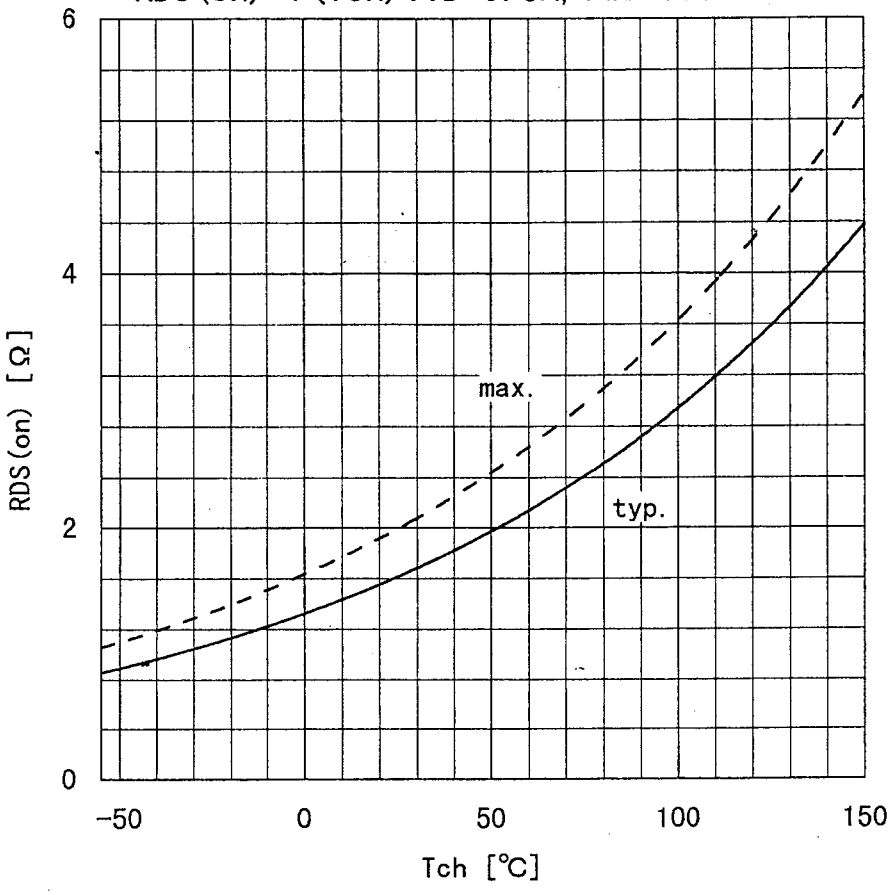
Typical forward transconductance
gfs=f(ID):80μs pulse test, VDS=25V, Tch=25℃



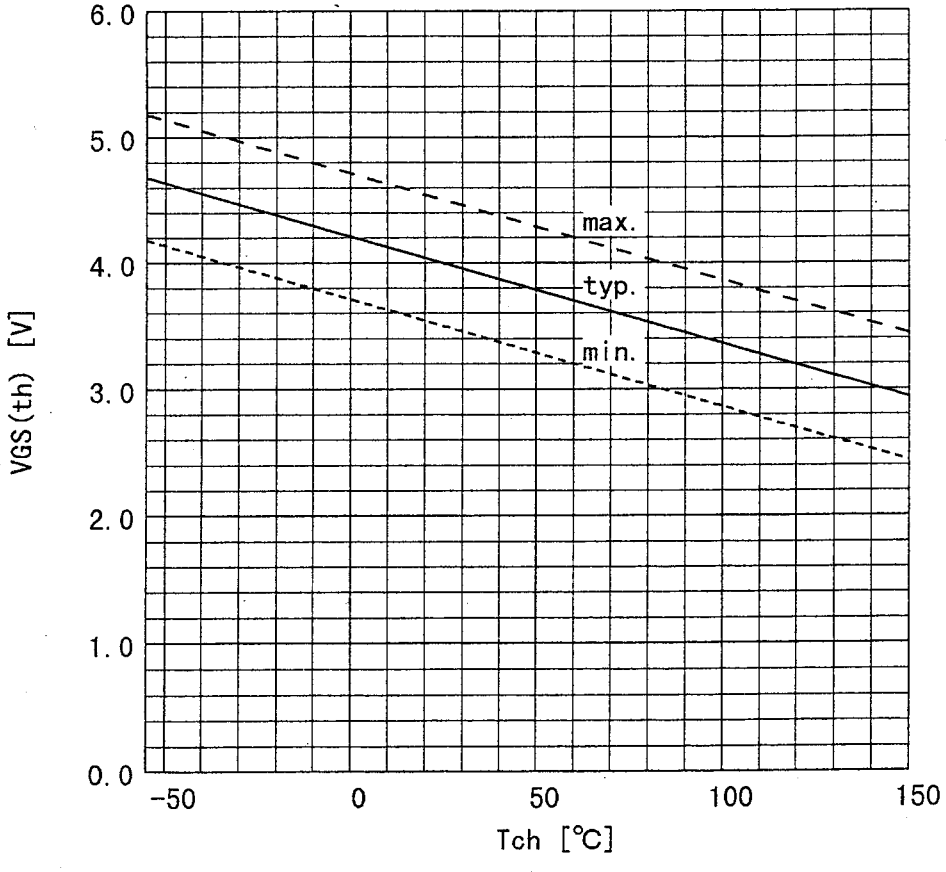
Typical drain-source on-state resistance
RDS(on)=f(ID):80μs pulse test, Tc=25℃



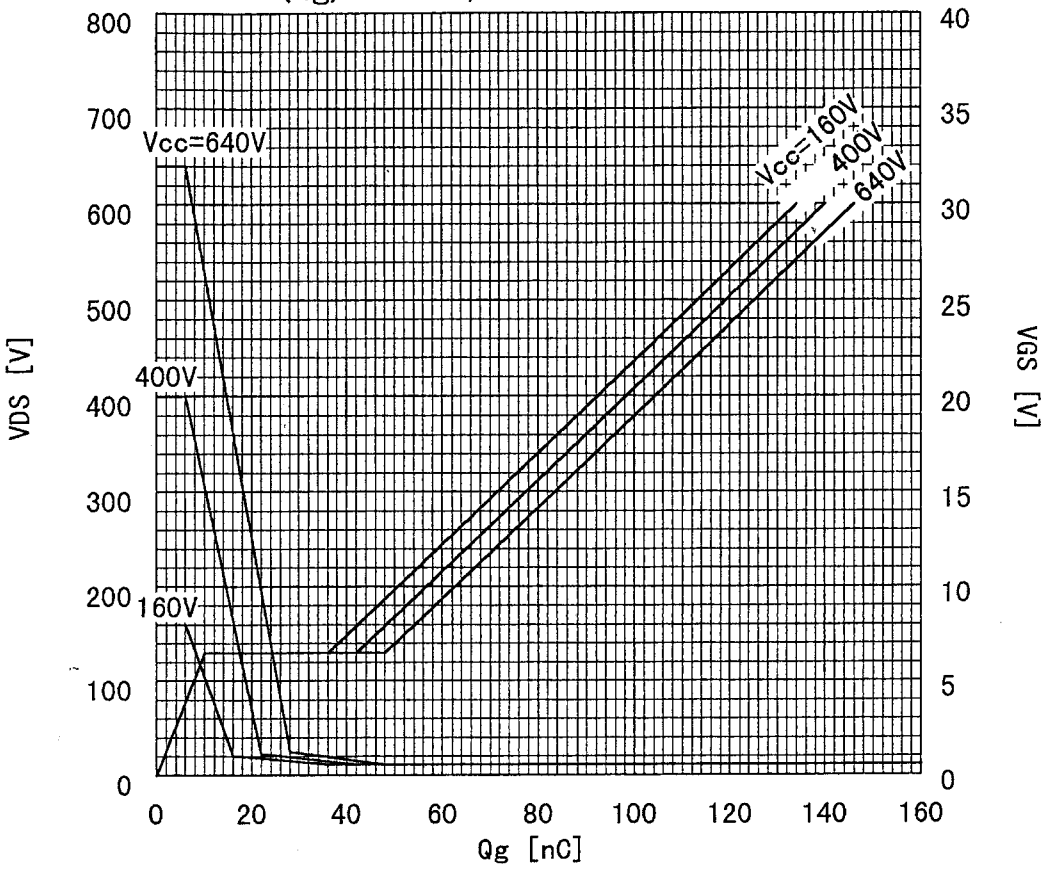
Drain-source on-state resistance
RDS(on)=f(Tch) : ID=3.5A, VGS=10V



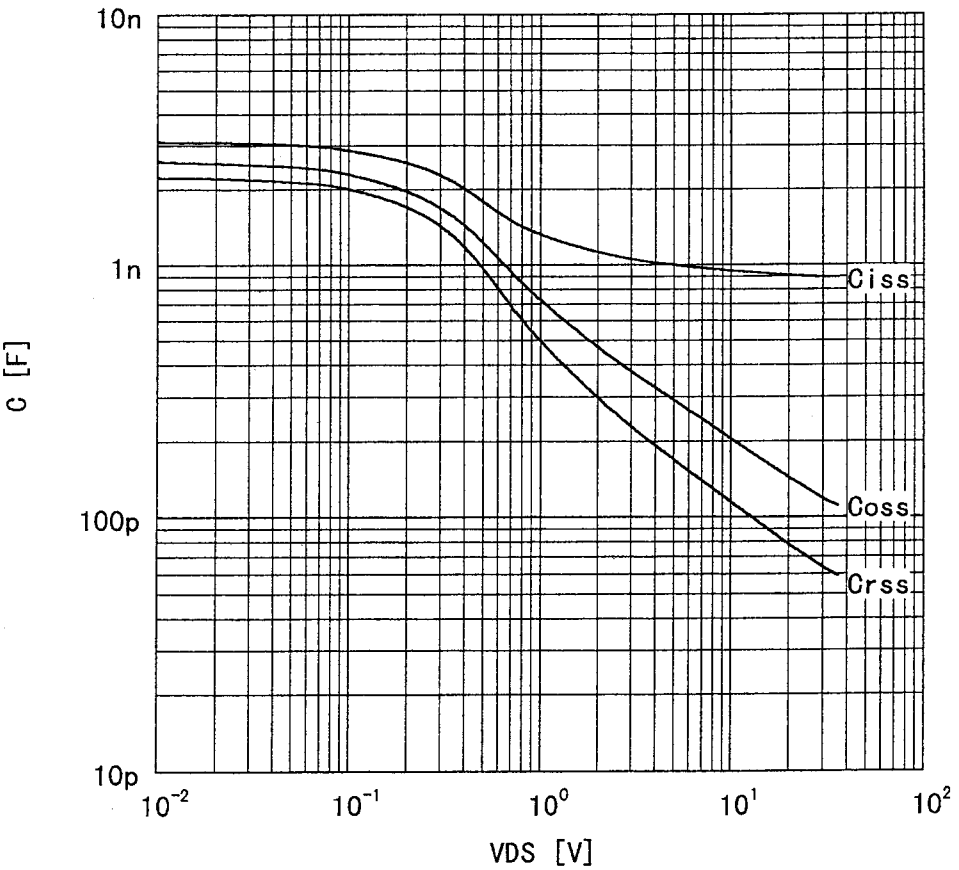
Gate threshold voltage
VGS(th)=f(Tch) : ID=1mA, VDS=VGS



Typical gate charge characteristic
VGS=f(Qg) : ID=7A, Tc=25°C

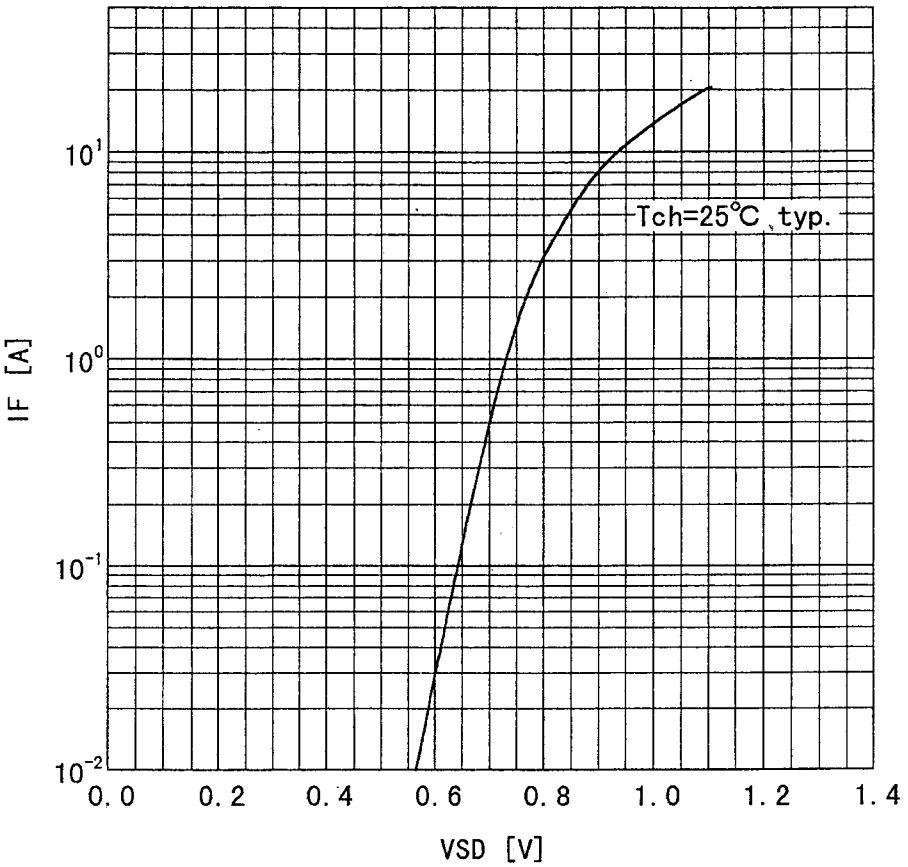


Typical capacitances
C=f(VDS) : VGS=0V, f=1MHz



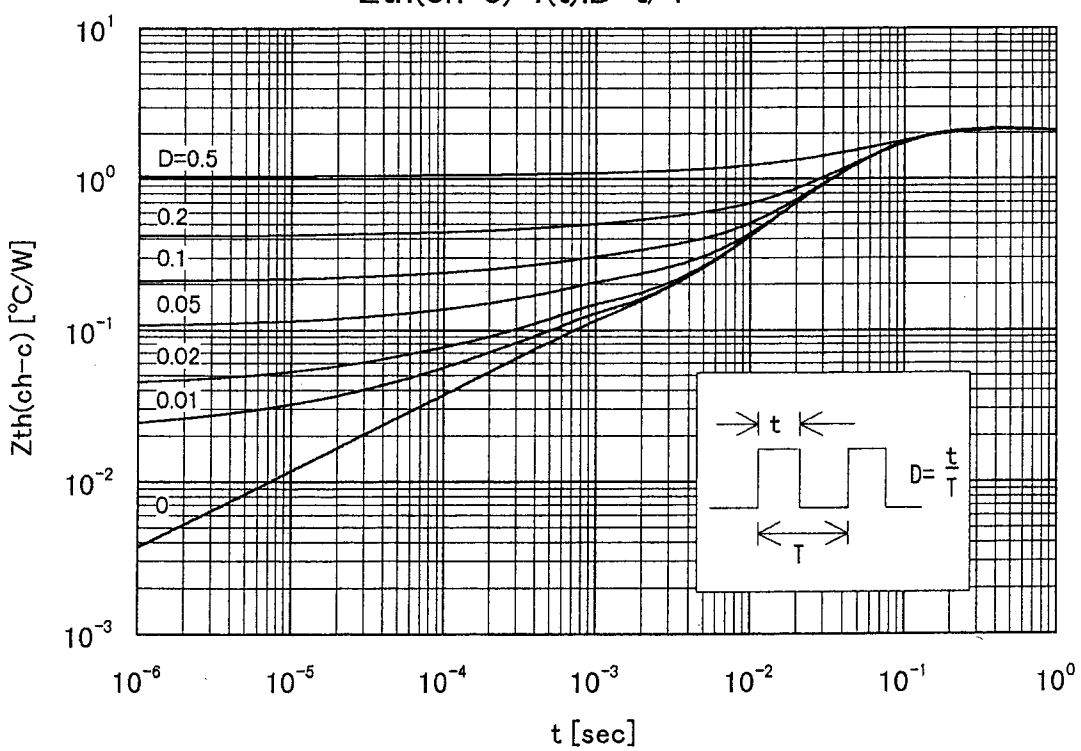
Forward characteristic of reverse of diode

IF=f(VSD) : 80μs pules test, VGS=0V



Transient Thermal Impedance

Zth(ch-c)=f(t):D=t/T



Avalanche energy derating

Eas=f(starting Tch):Vcc=80V, I_{AV}=7A