SPECIFICATION

DEVICE NAME : Power MOSFET

TYPE NAME : 2SK2832-01

SPEC. No. :

Fuji Electric Co.,Ltd.
Matsumoto Factory

This Specification is subject to change without notice.

	DATE	NAME	APPROVED
DRAWN			
CHECKED			

Fuji Electric Co.,Ltd.

DWG.NO.

H04-004-07

1. Scope
This specifies Fuji power MOSFET 2SK2832-01

2. Construction N-channel enhancement mode power MOSFET

3. Application for switching

4. Outview TO-220 Outview See to 5/11 page

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

Description	Symbol	Characteristics	Unit	
Drain-source voltage	V_{DS}	60	V	
Drain-gate voltage	V_{DGR}	60	V	R_{GS}=20kΩ
Continuous Drain current	I_D	± 50	A	
Pulsed drain current	I_{Dpulse}	± 200	A	
Gate-source voltage	V_{GS}	± 20	V	
Maximum power dissipation	P_D	80	W	
Operating and storage temperature range	T_{ch}	150	℃	
	$T_{stg.}$	-55 ~ +150	℃	

6. Electrical characteristics at Tc=25℃ (unless otherwise specified)
Static ratings

Description	Symbol	Conditions		Characteristics			Unit
				Min.	Typ.	Max.	
Drain-source breakdown voltage	BV_{DSS}	I_D=1mA V_{GS}=0V		60			V
Gate threshold voltage	$V_{GS(th)}$	I_D=1mA V_{DS}=V_{GS}		1.0	1.5	2.0	V
Zero gate voltage drain current	I_{DSS}	V_{DS}= 60V V_{GS}= 0V	T_{ch}= 25℃		10	500	μA
	I_{DSS}		T_{ch}=125℃		0.2	1.0	mA
Gate-source leakage current	I_{GSS}	V_{GS}=±20V V_{DS}= 0V			10	100	nA
Drain-source on-state resistance	$R_{DS(on)}$	I_D=25A	V_{GS}= 4V		22	34	mΩ
			V_{GS}=10V		14	20	

Dynamic ratings

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Forward transconductance	g f s	I_D = 25A V_{DS} = 25V	17	35		S
Input capacitance	Ciss	V_{DS}=25V V_{GS}= 0V f =1MHz		3100	4650	pF
Output capacitance	Coss			920	1380	pF
Reverse transfer capacitance	Crss			370	560	pF
Turn-on time	t d(on)	V_{CC}= 30V V_{GS}= 10V I_D = 50A R_{GS}= 10Ω		15	30	ns
	t r			40	60	ns
Turn-off time	t d(off)			180	270	ns
	t f			100	150	ns

Reverse diode

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Avalanche capability	I_{AV}	L =100μH, T_{ch}=25℃ *See Fig.1 and 2	50.0			A
Diode forward on-voltage	V_{SD}	I_F = 2 × I_{DR} V_{GS}=0V, T_{ch}=25℃		1.3	1.9	V
Reverse recovery time	t_{rr}	I_F = I_{DR} V_{GS}=0V -dI_F/dt=100A/μs T_{ch}=25℃		70		ns
Reverse recovery charge	Q_{rr}			110		μC

7. Thermal resistance

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Thermal resistance	Rth_{ch}-c				1.56	℃/W
	Rth_{ch}-a				125	℃/W

Fig.1 Test circuit

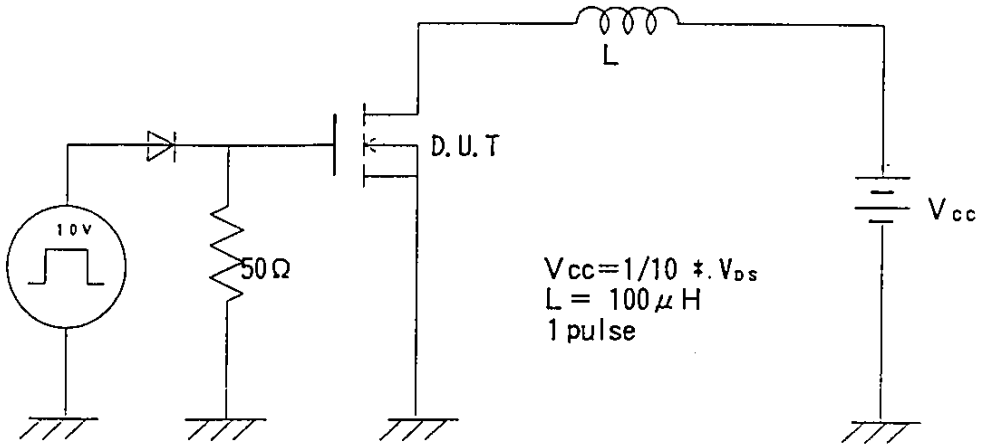
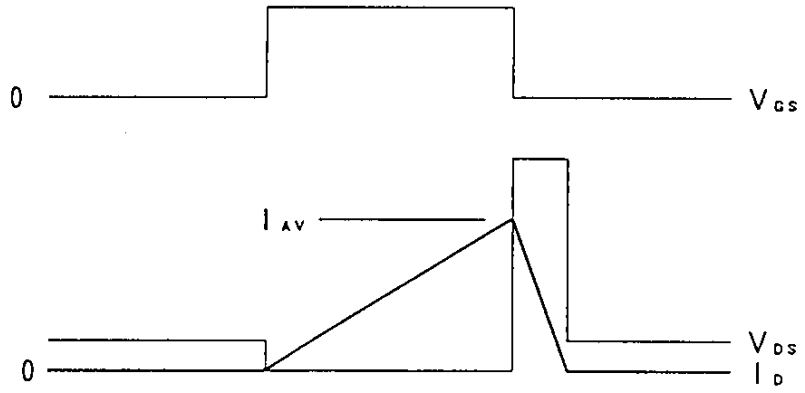
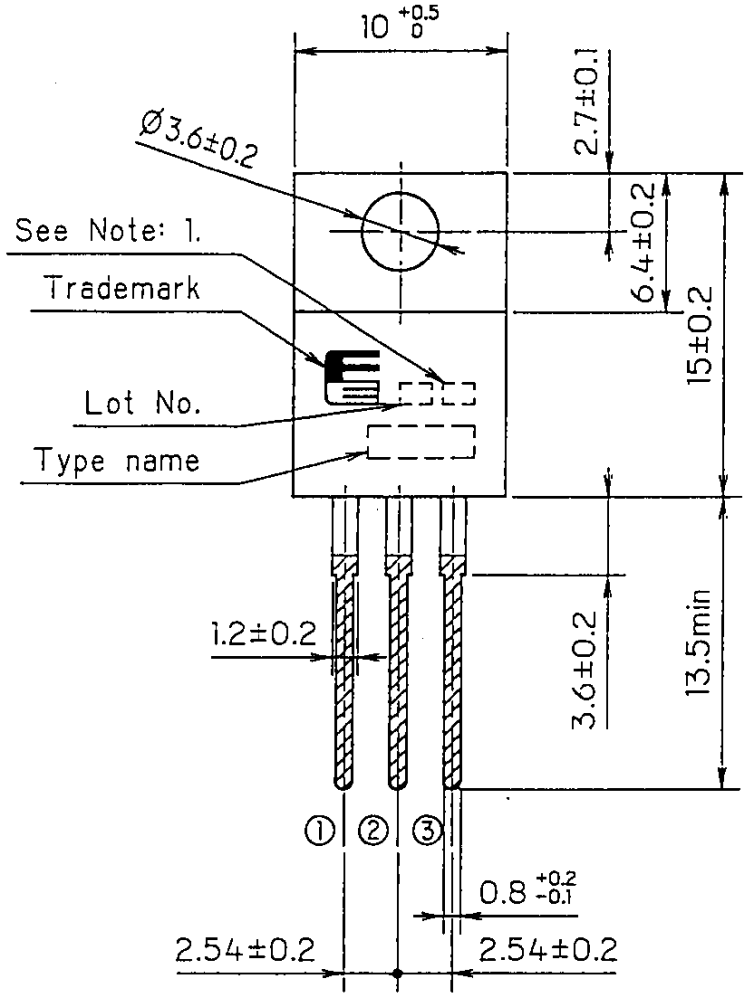


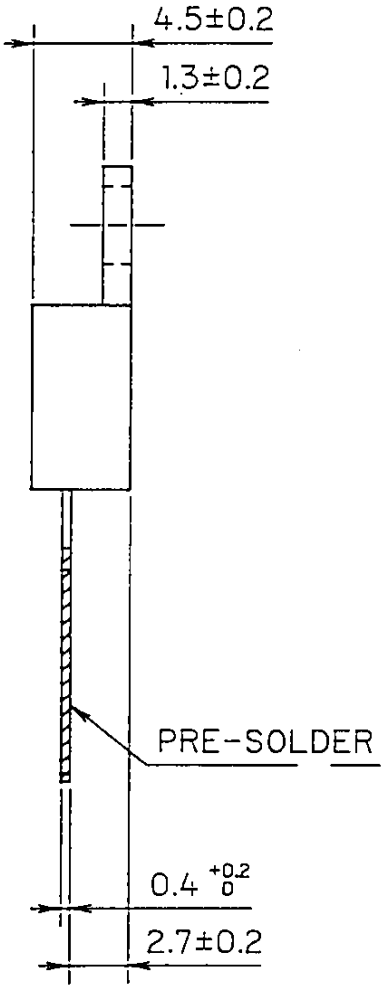
Fig.2 Operating waveforms

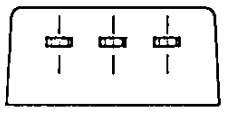


FUJI POWER MOS FET

TYPE :







① ② ③

CONNECTION

① GATE
② DRAIN
③ SOURCE

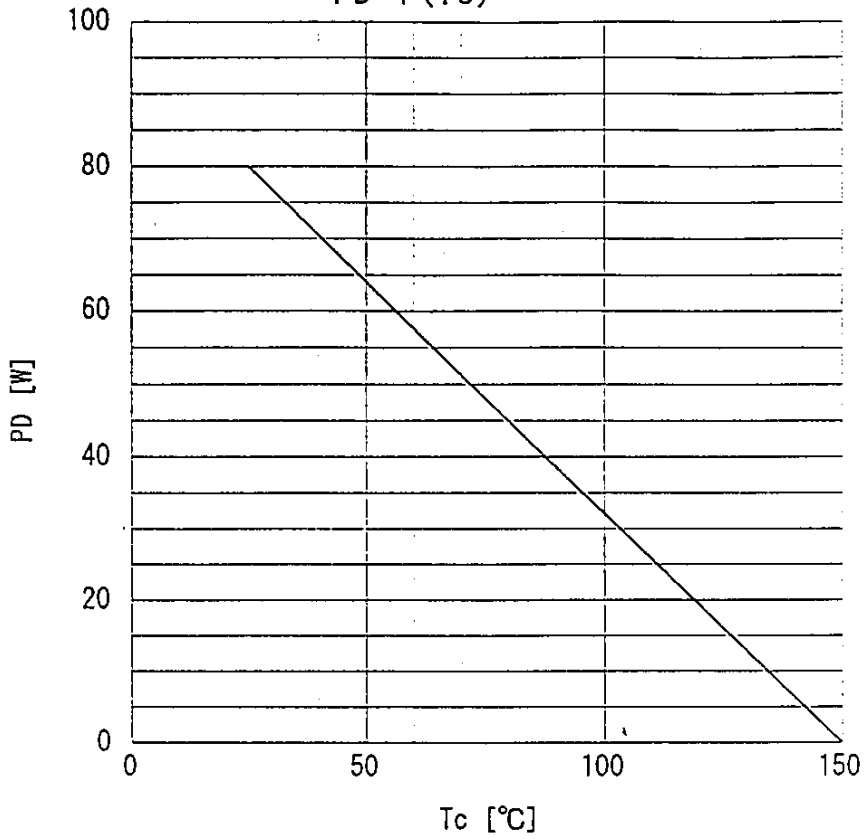
JEDEC : TO-220AB

Note: 1. $V_{GS(th)}$ selected code.

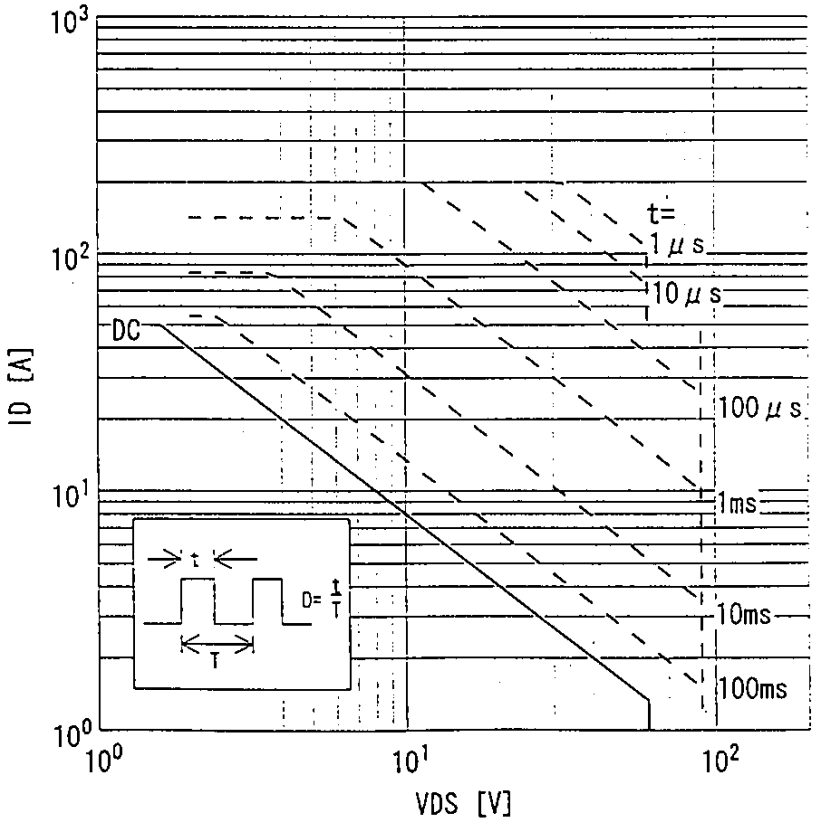
Note: 1. Guaranteed mark of avalanche ruggedness.

DIMENSIONS ARE IN MILLIMETERS.

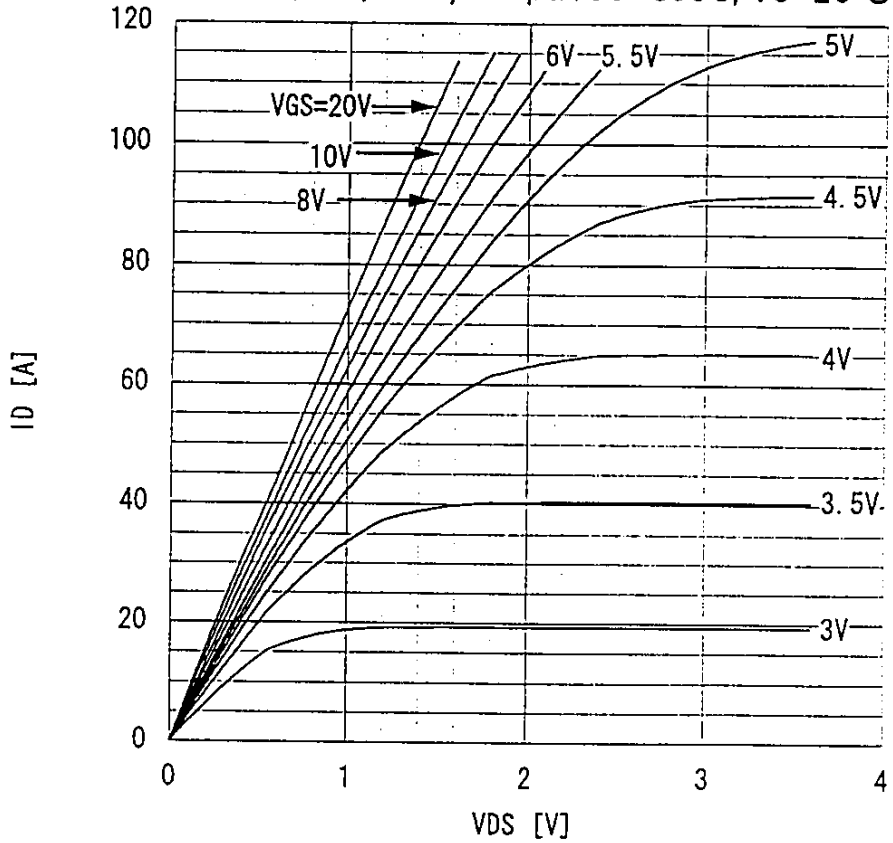
Power Dissipation
PD=f(Tc)



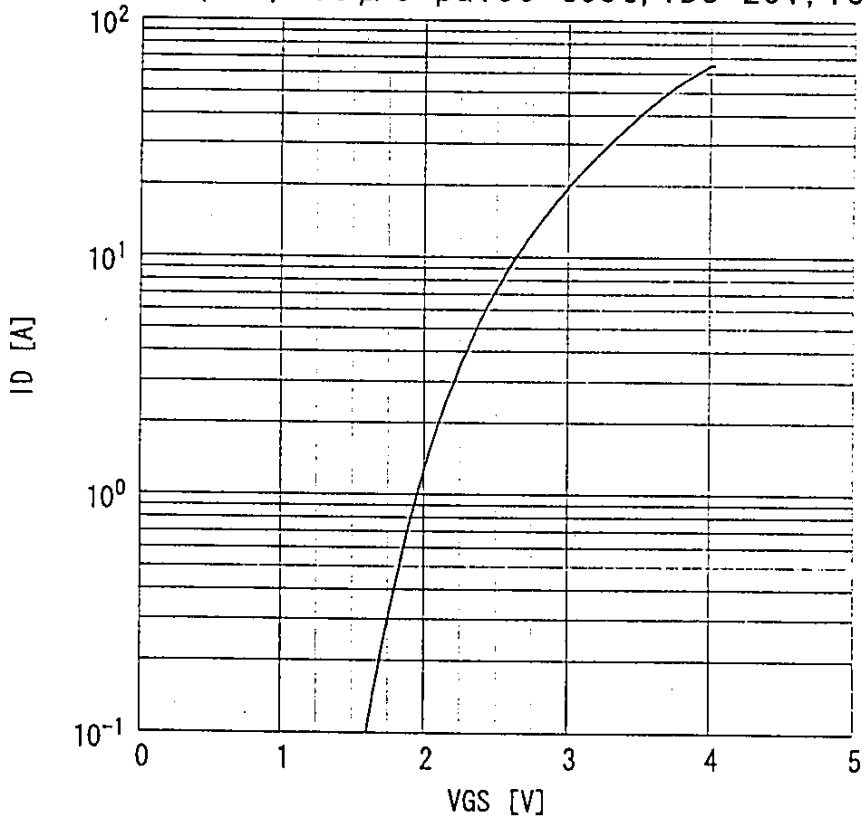
Safe operating area
ID=f(VDS):D=0.01, Tc=25℃



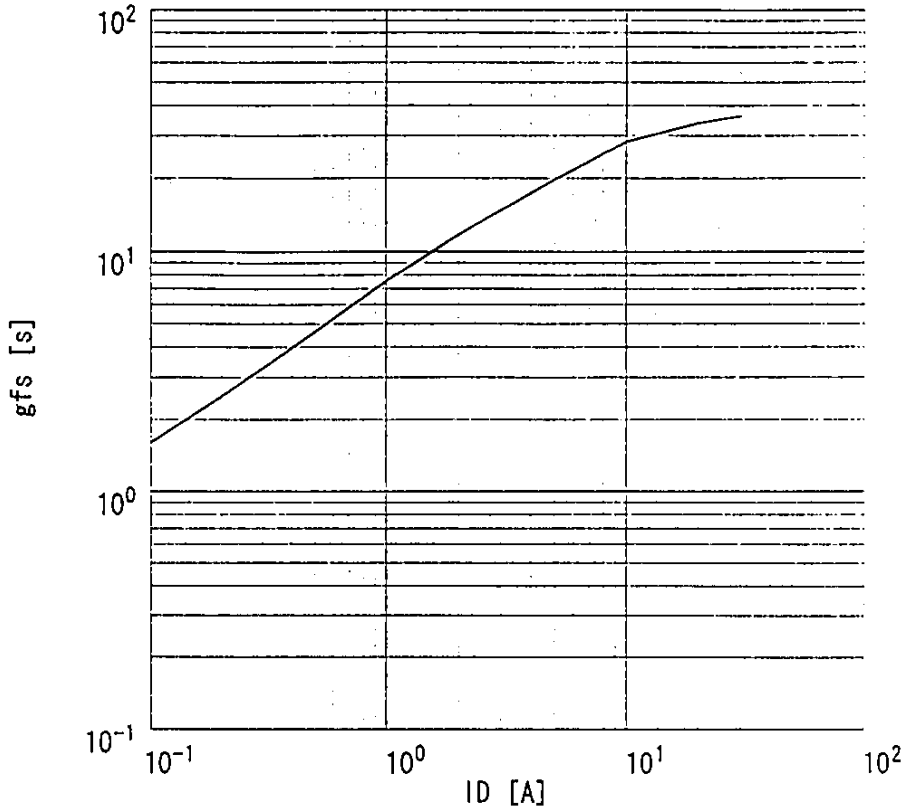
Typical output characteristics
ID=f(VDS):80μs pulse test, Tc=25℃



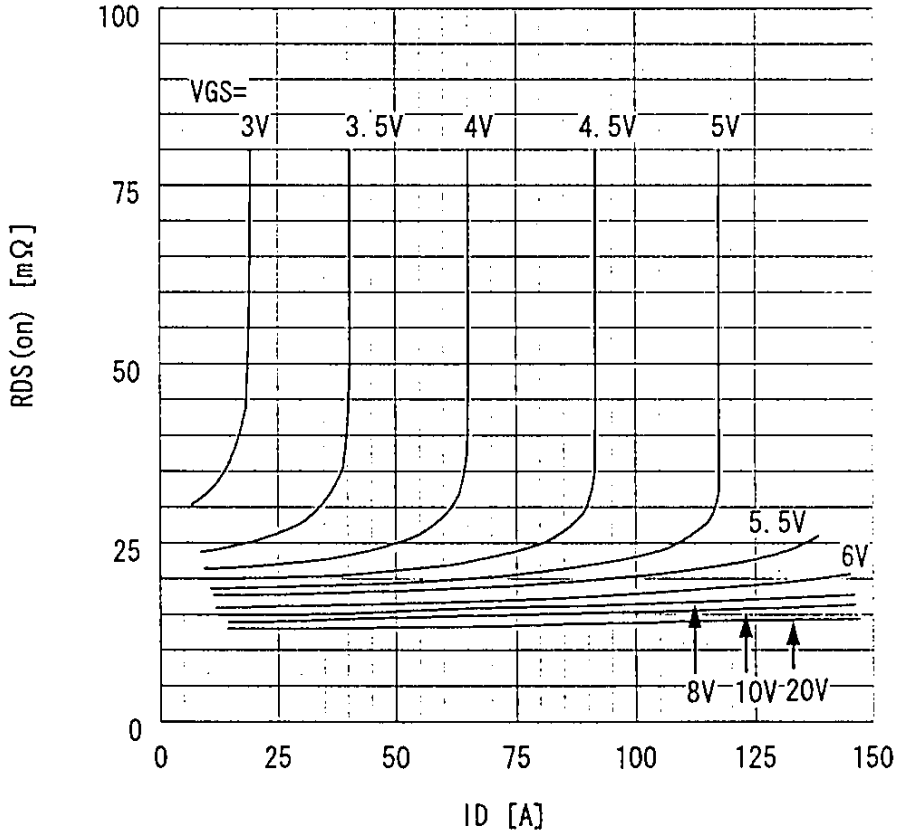
Typical transfer characteristic
ID=f(VGS):80μs pulse test, VDS=25V, Tch=25℃



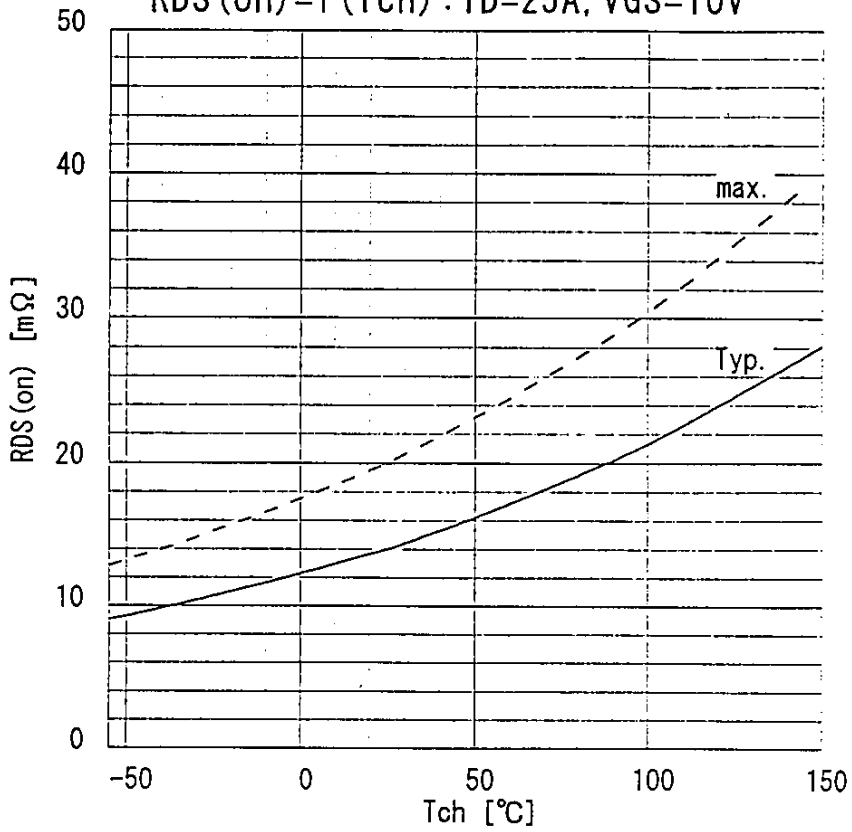
Typical forward transconductance
gfs=f(ID):80μs pulse test, VDS=25V, Tch=25℃



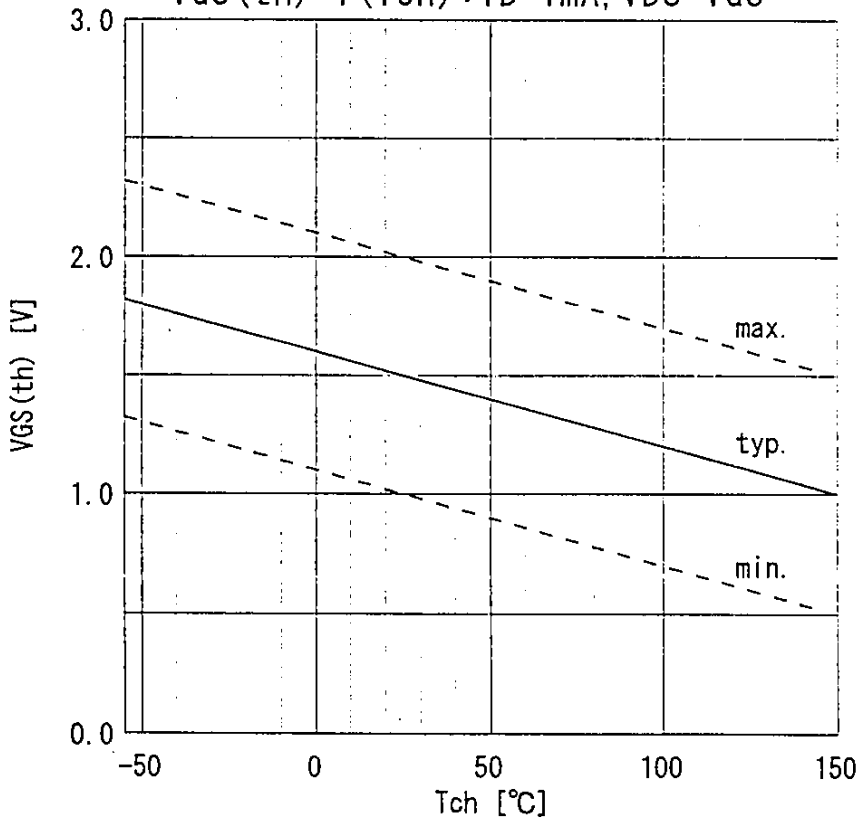
Typical drain-source on-state resistance
RDS(on)=f(ID):80μs pulse test, Tc=25℃



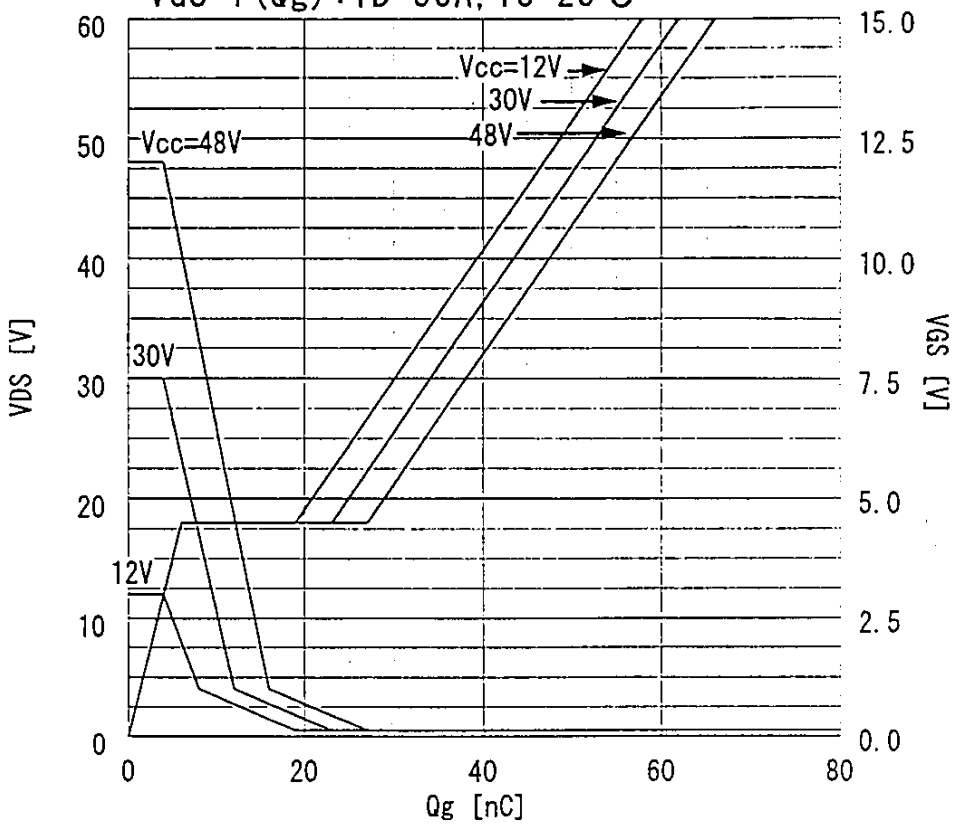
Drain-source on-state resistance
RDS(on)=f(Tch) : ID=25A, VGS=10V



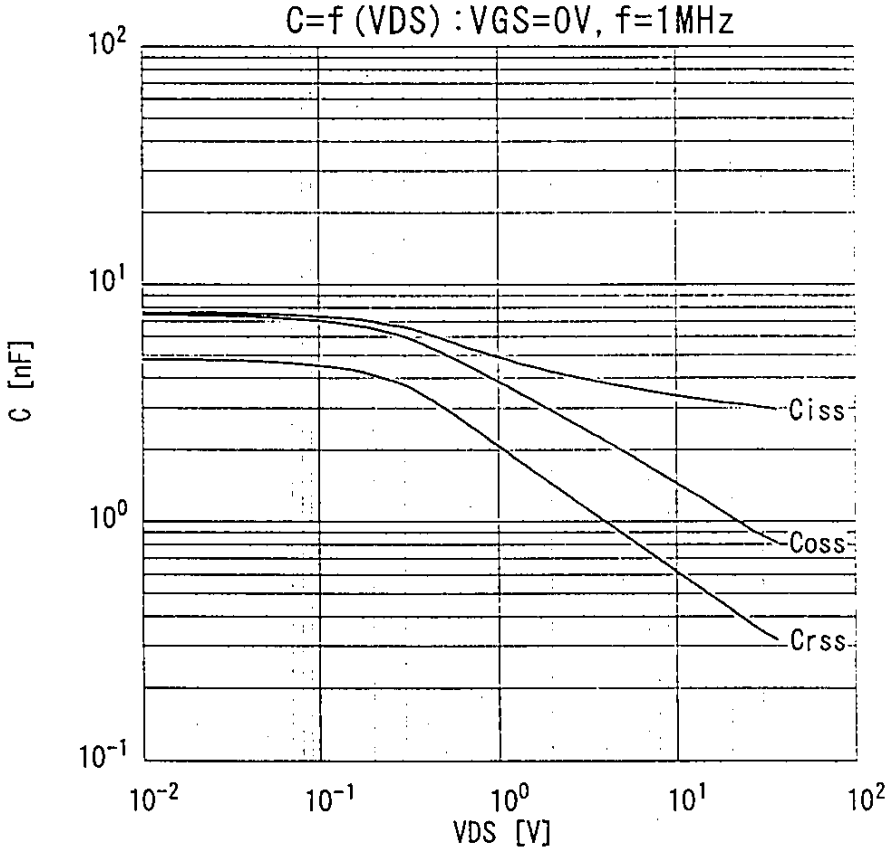
Gate threshold voltage
VGS(th)=f(Tch) : ID=1mA, VDS=VGS



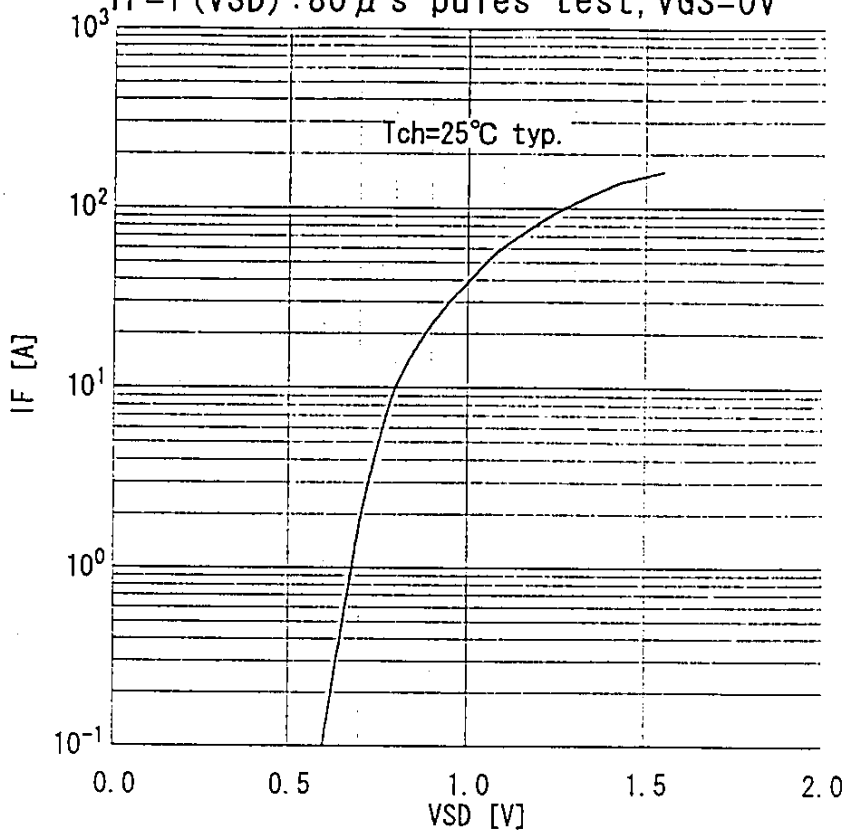
Typical gate charge characteristic
VGS=f(Qg) : ID=50A, Tc=25℃



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



Forward characteristic of reverse diode
IF=f(VSD):80μs pules test, VGS=0V



Transient thermal impedance
Zthch=f(t) parameter:D=t/T