SPECIFICATION

DEVICE NAME : Power MOSFET

TYPE NAME : 2SK2753-01

SPEC. No. :

Fuji Electric Co.,Ltd.

This Specification is subject to change without notice.

	DATE	NAME	APPROVED
DRAWN			
CHECKED			

Fuji Electric Co.,Ltd.

DWG.NO.

Y 0257-R-004a

1. Scope
This specifies Fuji power MOSFET 2SK2753-01

2. Construction N-channel enhancement mode power MOSFET

3. Application for switching

4. Outview TO-3P Outview See to 5/11 page

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

Description	Symbol	Characteristics	Unit	Remarks
Drain-source voltage	V_{DS}	120	V	
Drain-gate voltage	V_{DGR}	120	V	R_{GS}=20KΩ
Continuous Drain current	I_D	± 50	A	
Pulsed drain current	I_{Dpulse}	± 200	A	
Gate-source voltage	V_{GS}	± 30	V	
Maximum power dissipation	P_D	150	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		120			V
Gate threshold voltage	$V_{GS(th)}$	I_D=10mA V_{DS}=V_{GS}		2.5	3.0	3.5	V
Zero gate voltage drain current	I_{DSS}	V_{DS}=120V 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}=±30V V_{DS}= 0V			10	100	nA
Drain-source on-state resistance	$R_{DS(on)}$	I_D = 25A V_{GS}= 10V			24	32	mΩ

Dynamic ratings

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Forward transconductance	g f s	I_D = 25A V_{DS}= 25V	25	50		S
Input capacitance	Ciss	V_{DS}=25V V_{GS}= 0V f =1MHz		4250	6400	pF
Output capacitance	Coss			820	1200	pF
Reverse transfer capacitance	Crss			250	370	pF
Turn-on time	t d(on)	V_{CC}= 50V V_{GS}= 10V I_D = 50A R_{GS}= 10Ω		30	45	ns
	t r			150	230	ns
Turn-off time	t d(off)			160	240	ns
	t f			140	210	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			A
Diode forward on-voltage	V_{SD}	I_F = 2 × I_{DR} V_{GS}=0V, T_{ch}=25℃		1.3	2.0	V
Reverse recovery time	t_{rr}	I_F = I_{DR} V_{GS}=0V -dI_F/dt=100A/μs T_{ch}=25℃		150		ns
Reverse recovery charge	Q_{rr}			1.1		μC

7. Thermal resistance

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Thermal resistance	Rth_{ch}-c				0.833	℃/W
	Rth_{ch}-a				35.0	℃/W

Fig.1 Test circuit

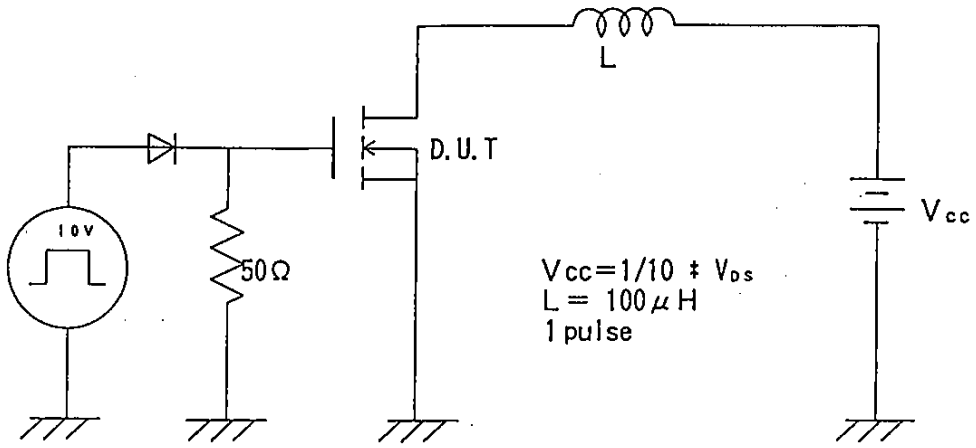
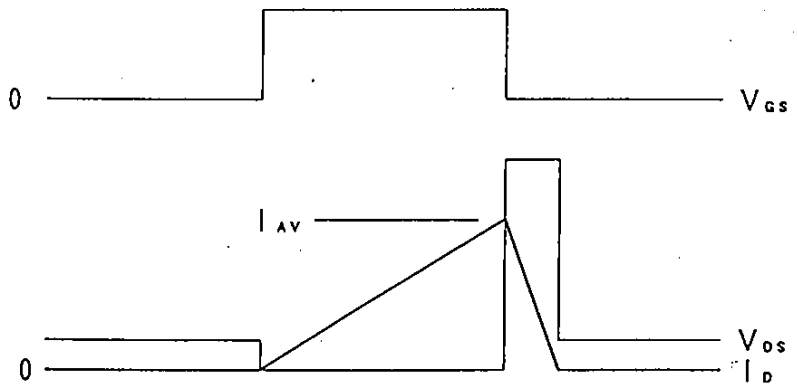
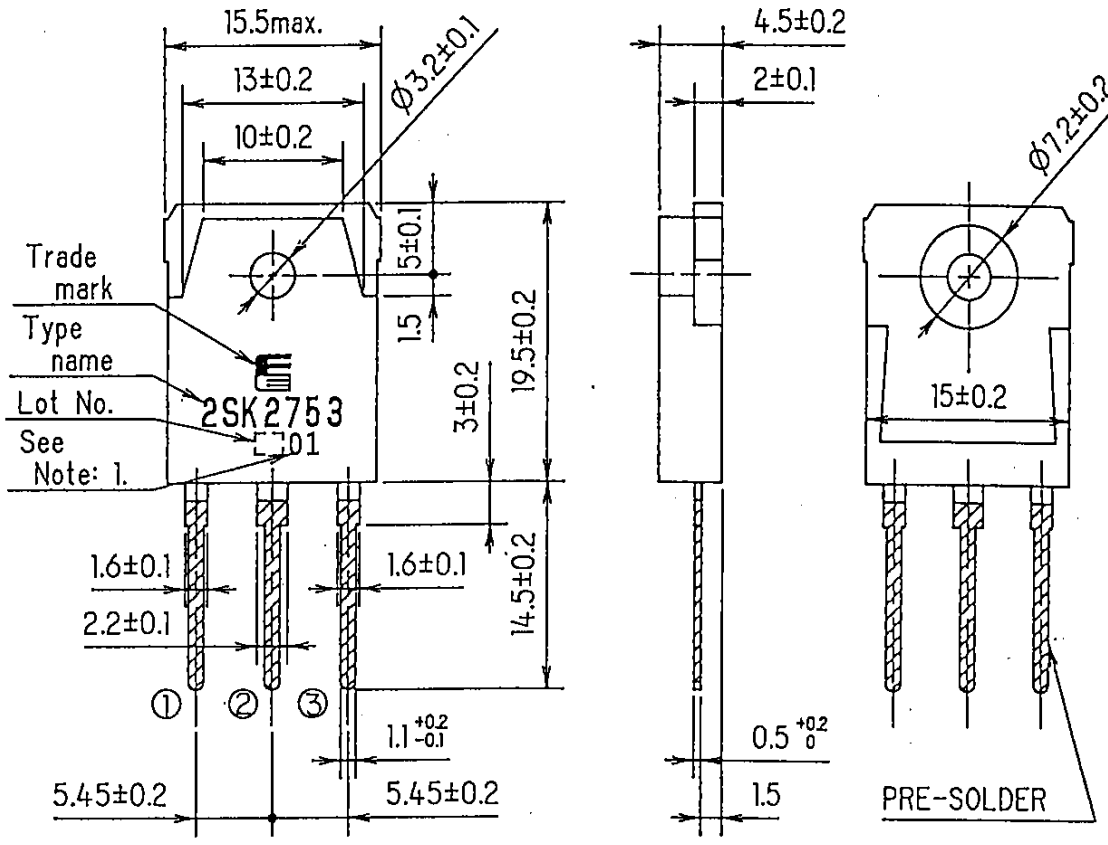


Fig.2 Operating waveforms

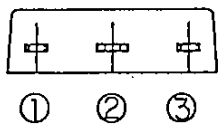


FUJI POWER MOS FET

TYPE : 2SK2753-01



DIMENSIONS ARE IN MILLIMETERS.



CONNECTION

① GATE
② DRAIN
③ SOURCE

Note: 1. Guaranteed mark of avalanche ruggedness.

JEDEC : TO-247
EIAJ : SC-65

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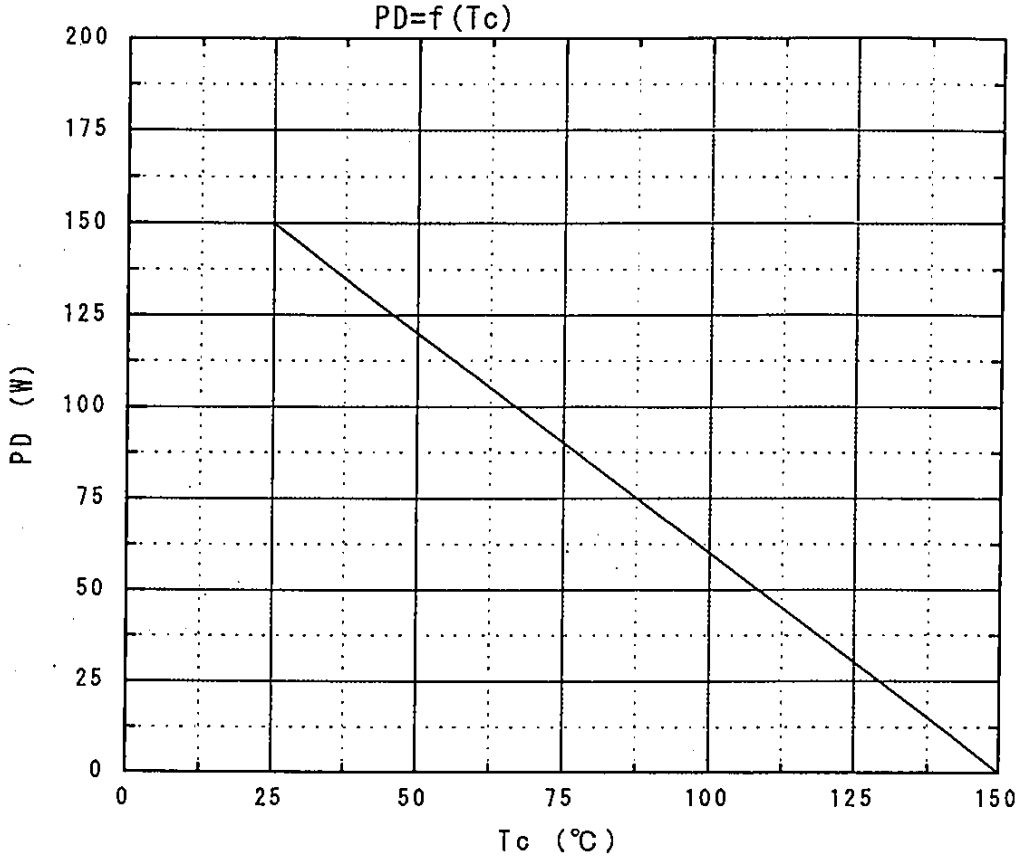
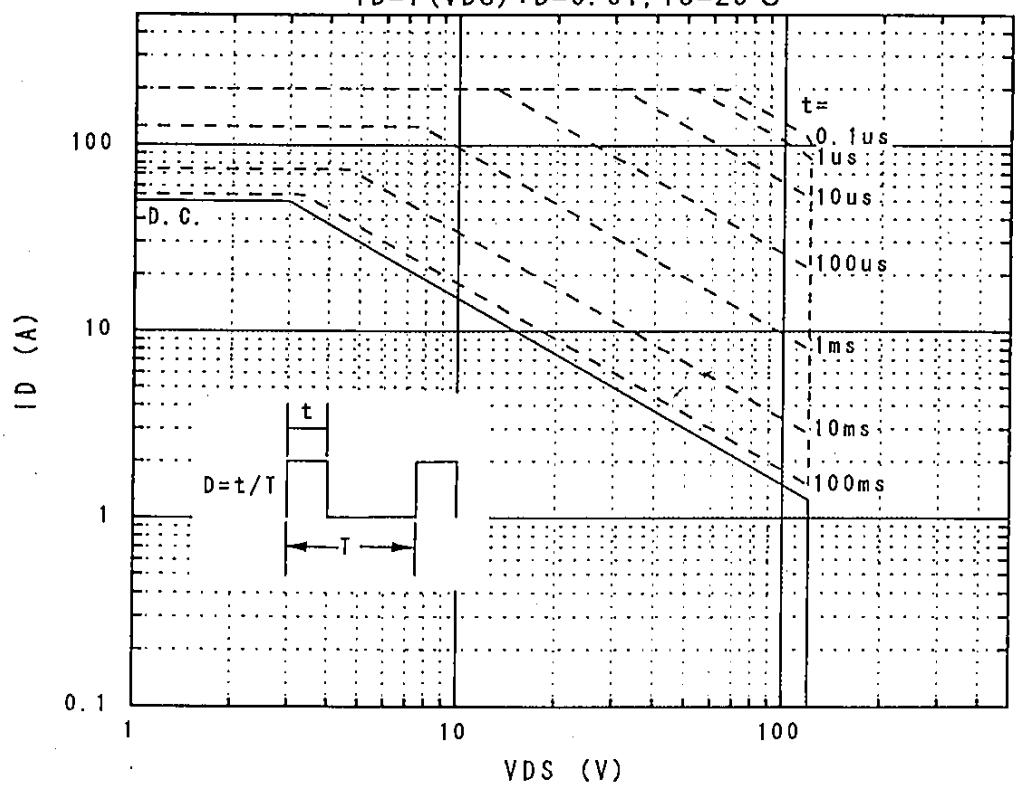
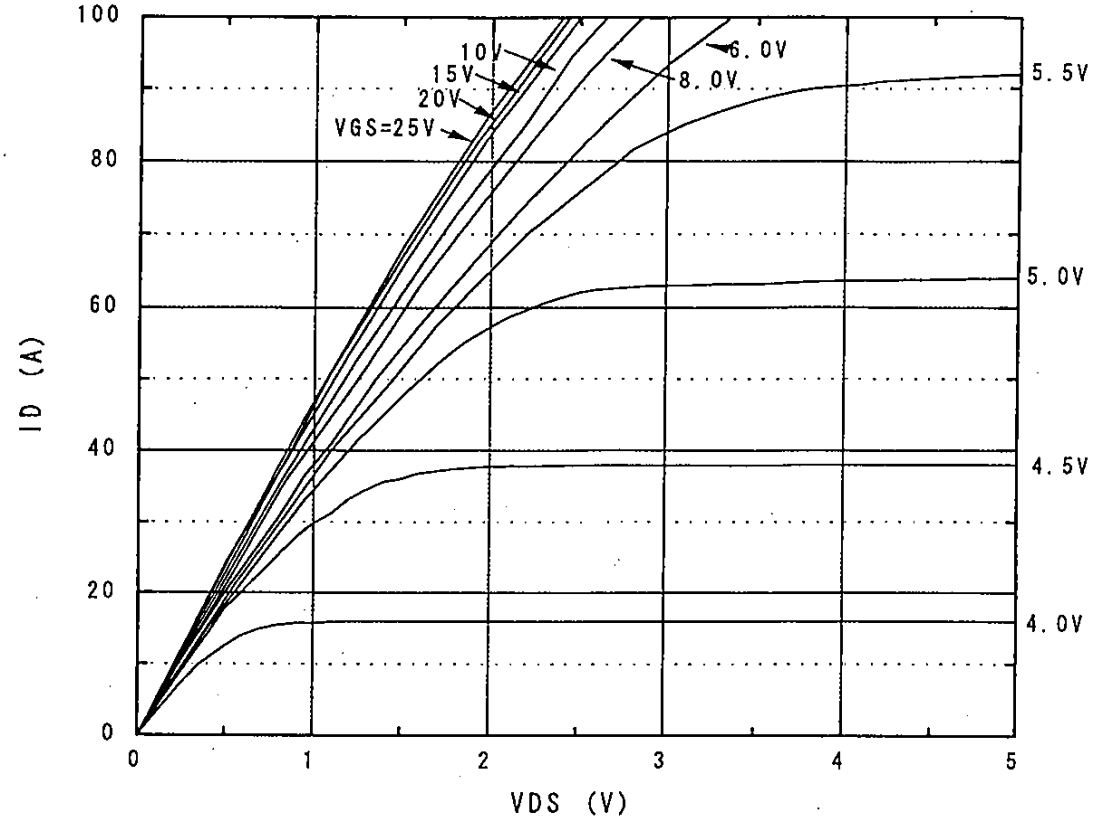
Power dissipation
PD=f(Tc)



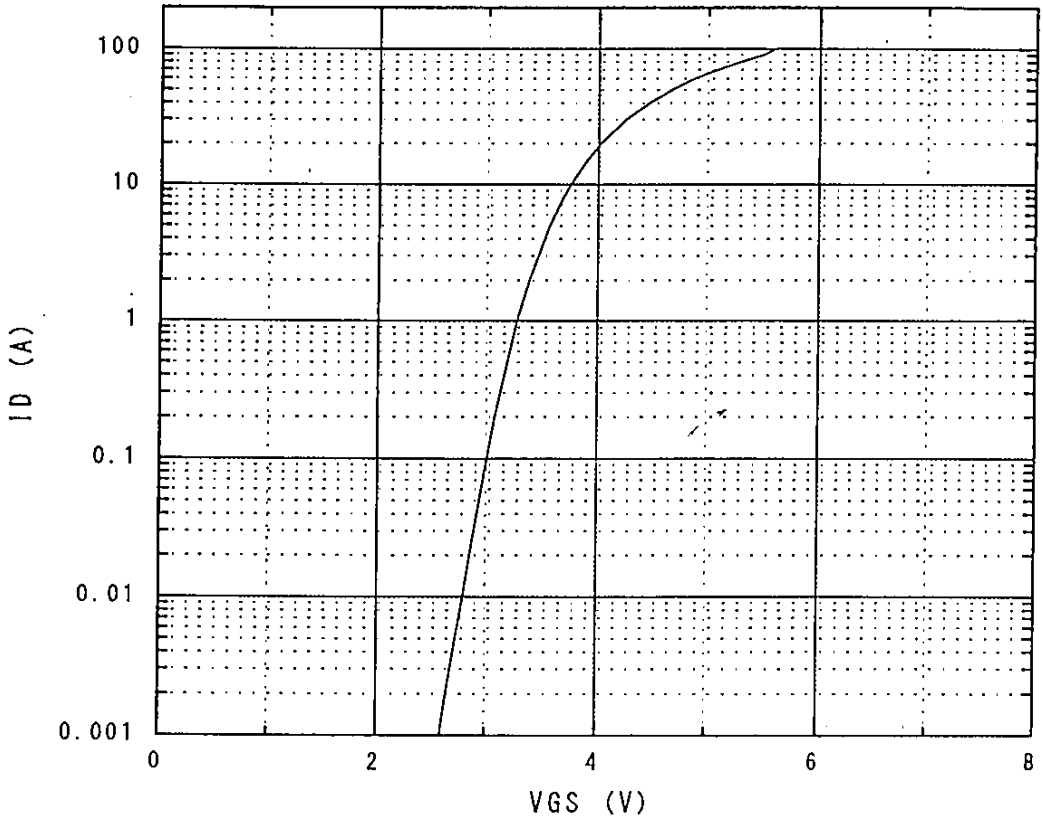
Safe operating area
ID=f(VDS) : D=0.01, Tc=25℃



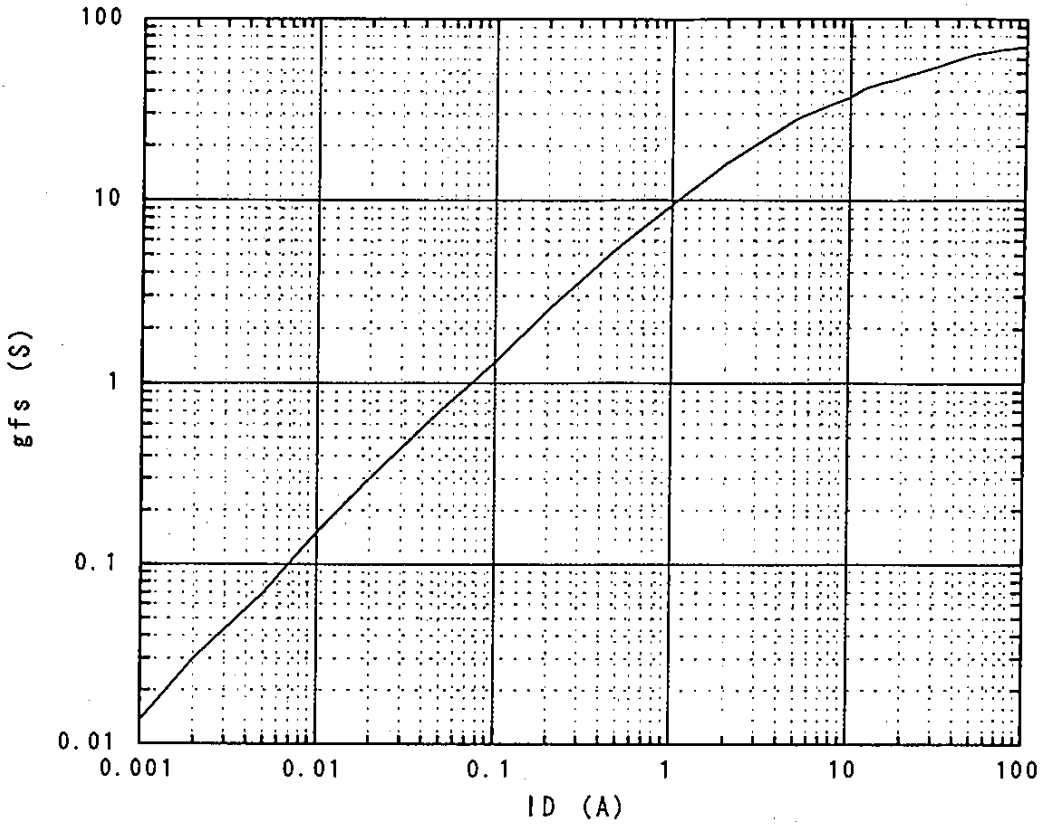
Typical output characteristics
ID=f(VDS):80us pulse test, Tch=25℃



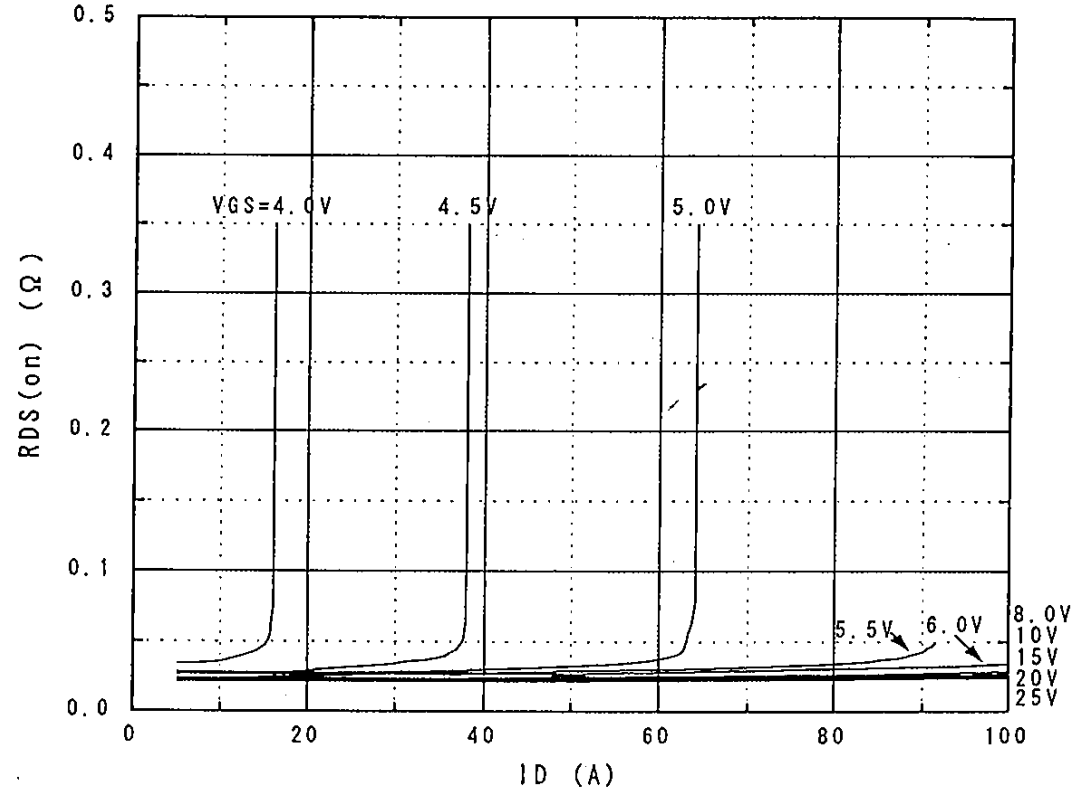
Typical transfer characteristic
ID=f(VGS):80us pulse test, VDS=25V, Tch=25℃



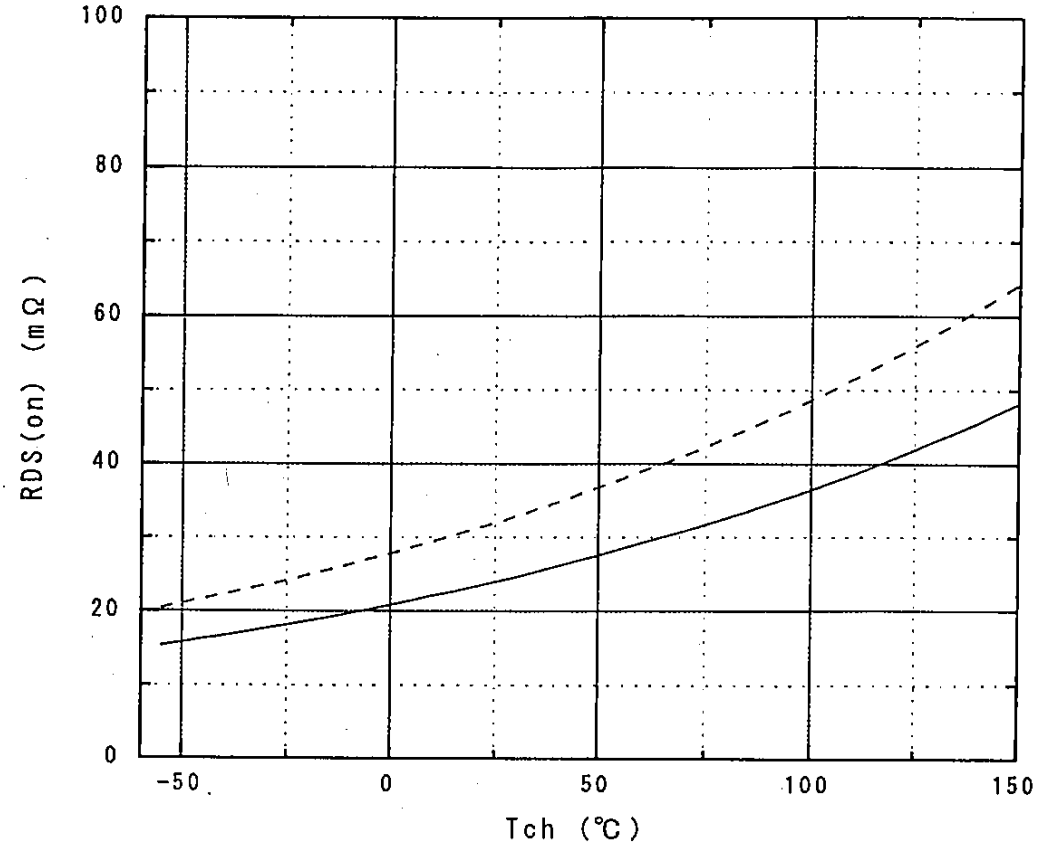
Typical transconductance
gfs=f(ID):80us pulse test, VDS=25V, Tch=25℃



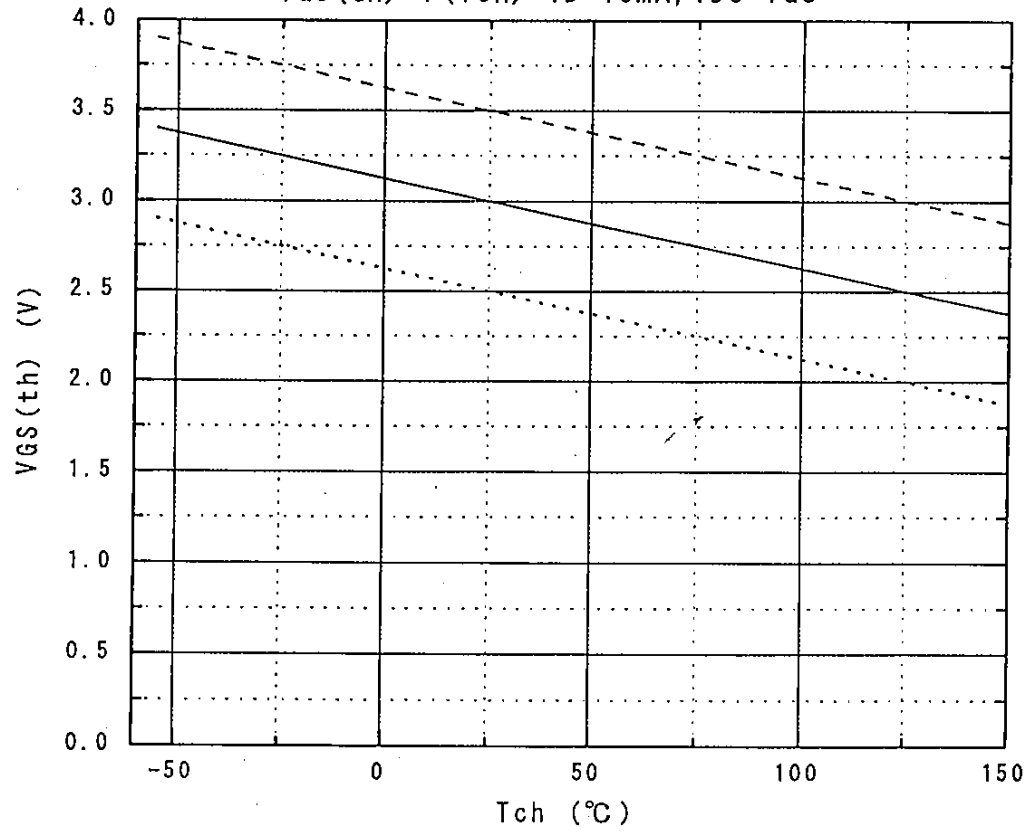
Typical drain-source on-state resistances
RDS(on)=f(ID): 80us pulse test, Tch=25℃



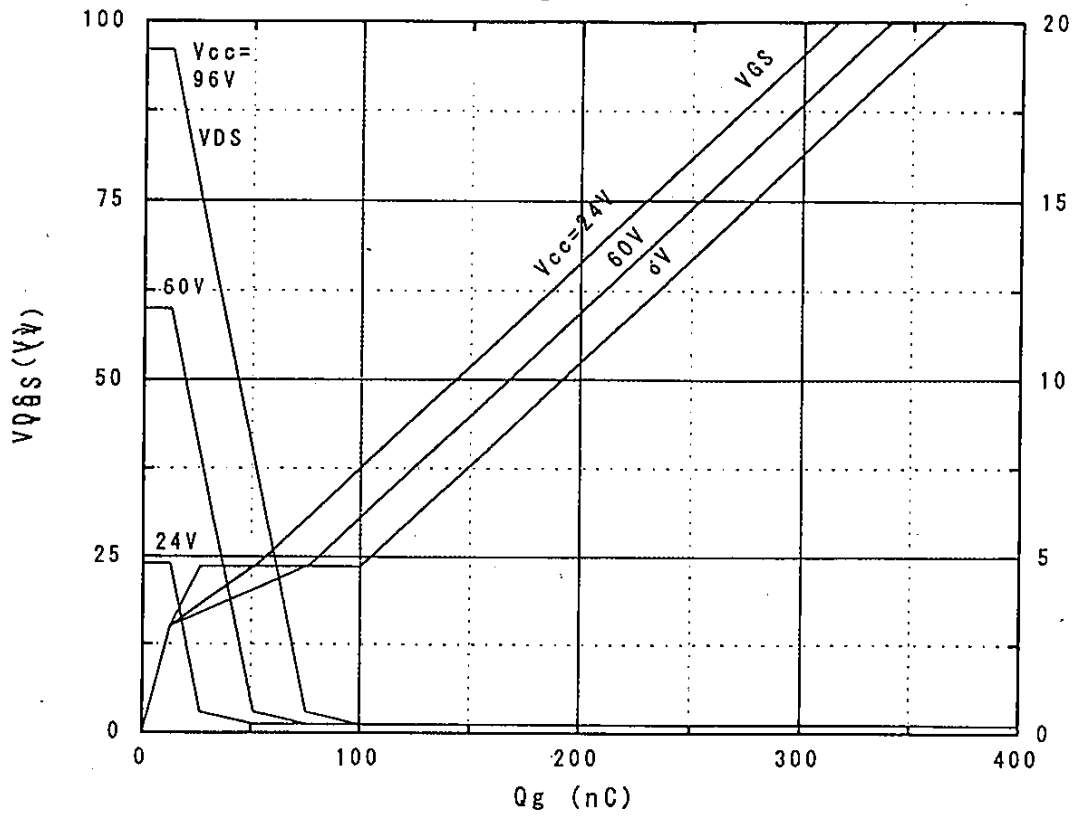
Drain-source on-state resistance
RDS(on)=f(Tch) : ID=25A, VGS=10V



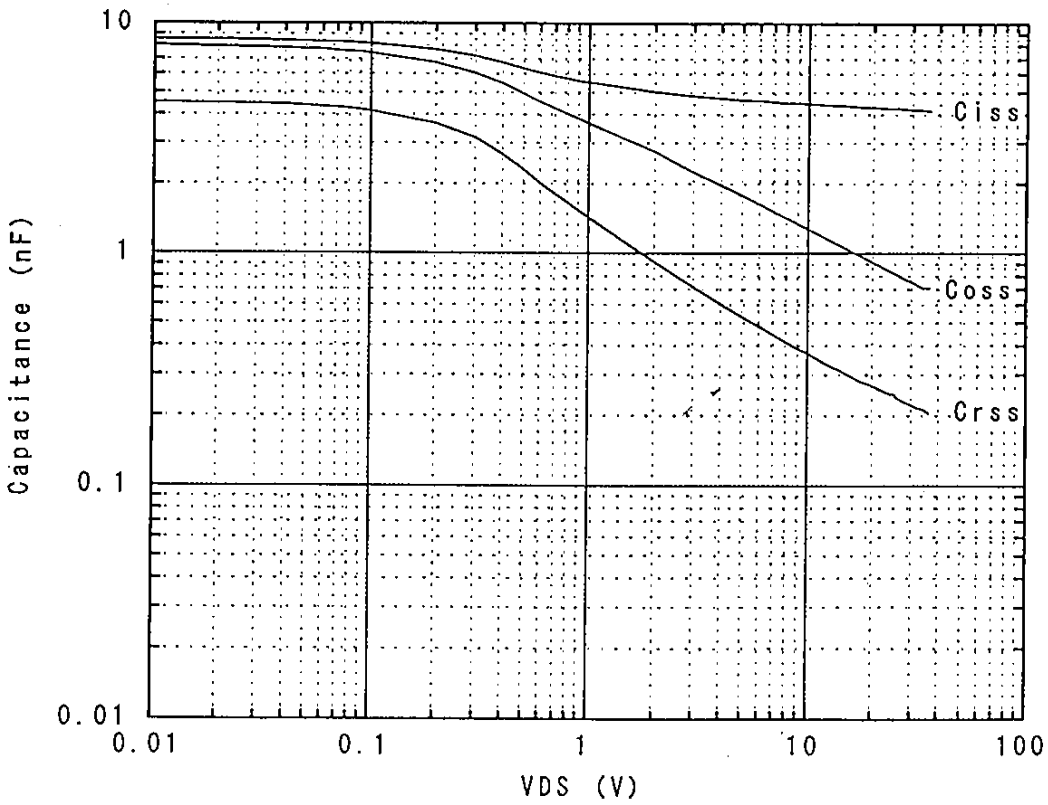
Gate threshold voltage
VGS(th)=f(Tch) : ID=10mA, VDS=VGS



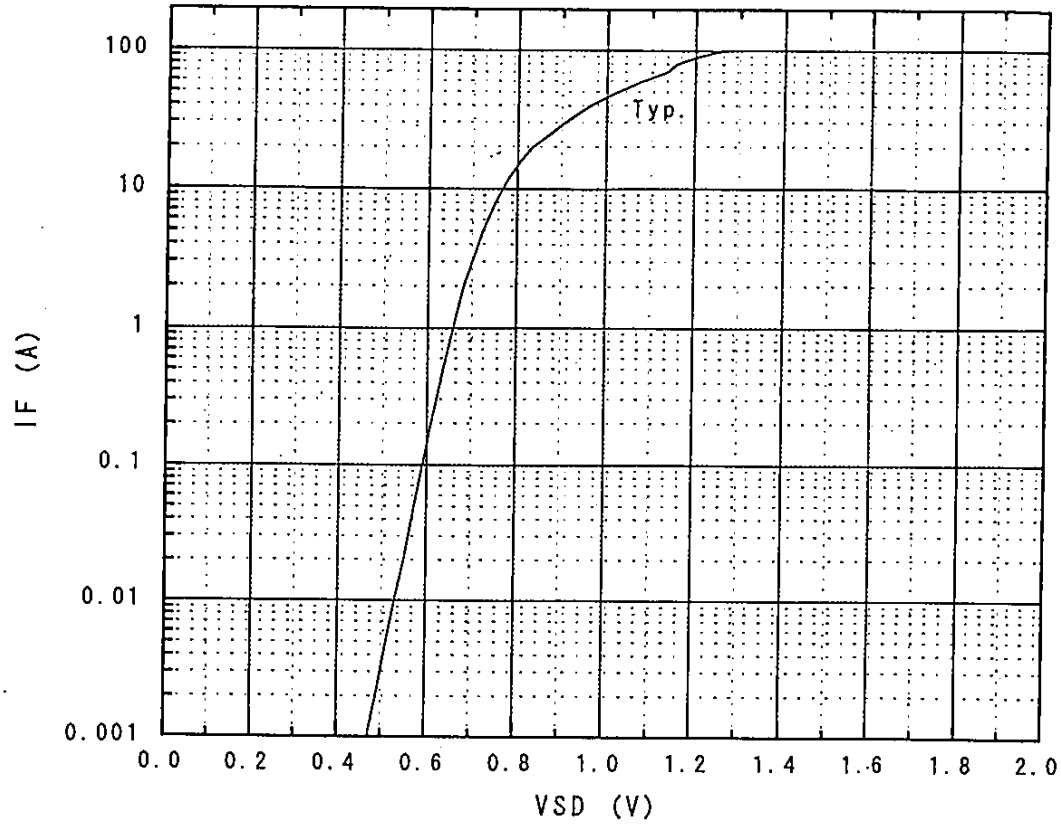
Typical gate charge
VGS=f(Qg):ID=50A



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



Forward characteristic of reverse diode
IF=f(VSD):80us pulse test, VGS=0V, Tch=25℃



Transient thermal impedance
Zth(ch-c)=f(t):parameter D=t/T