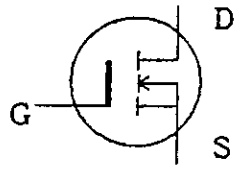
Fuji power MOSFET Specification

2SK1018

1. Scope
This specifies Fuji power MOSFET 2SK1018

2. Outline
Ⅰ) Construction N-channel enhancement mode power MOSFET
Ⅱ) Application for switching
Ⅲ) Outview TO-3P (MK5C24562)



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

Description	Symbol	Characteristics	Unit	Remarks
Drain-source voltage	V_{DS}	500	V	
Drain-gate voltage	V_{DGR}	500	V	R_{GS}=20KΩ
Continuous Drain current	I_D	18	A	
Pulsed drain current	I_{Dpulse}	44	A	
Gate-source voltage	V_{GS}	± 30	V	
Maximum power dissipation	P_D	125	W	
Operating and storage temperature range	T_{ch}	150	℃	
	T_{stg}	-55 ～ +150	℃	

4. Electrical characteristics at Tc=25℃ (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}=0 V		500			V
Gate threshold voltage	$V_{GS(th)}$	I_D=1 mA, V_{DS}=V_{GS}		2.5	3.5	5.0	V
Zero gate voltage drain current	I_{DSS}	V_{DS}=500V, V_{GS}=0 V	T_{ch}=25℃		10	500	μA
	I_{DSS}		T_{ch}=125℃		0.2	1.0	mA
Gate-source leakage current	I_{GSS}	V_{GS}=±30 V, V_{DS}=0 V			10	100	nA
Drain-source on-state resistance	$R_{DS(on)}$	I_D=8 A, V_{GS}=10 V			0.30	0.45	Ω

	DATE	NAME	APPROVED
DRAWN	Aug.-20-'90	T.SHIOTANI	
CHECKED	Aug.-21-'90	T.Arai	
REVISIONS	Aug.-21-'90	S.Furukata	

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Dynamic ratings

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Forward transconductance	g f s	I_D = 8A V_{DS} = 25V	5.0	10		S
Input capacitance	C iss	V_{DS} = 25V V_{GS} = 0V f = 1MHz		1800	2700	pF
Output capacitance	C oss			270	410	pF
Reverse transfer capacitance	C rss			120	180	pF
Turn-on time	t d(on)	V_{CC} = 300V V_{GS} = 10V I_D = 18A R_{GS} = 25Ω		70	110	ns
	t r			100	150	ns
Turn-off time	t d(off)			250	380	ns
	t f			80	120	ns

Reverse diode

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Continuous reverse drain current	I_{DR}	Tc = 25℃			18	A
Pulsed reverse deain current	I_{DRM}	Tc = 25℃			44	A
Diode forward on-voltage	V_{SD}	I_F = 2 × I_{DR} V_{GS} = 0 V, T_{ch} = 25℃		1.18	1.70	V
Reverse recovery time	t_{rr}	I_F = I_{DR} dI_F/dt = 100A/μS T_{ch} = 25℃		500		ns
Reverse recovery charge	Q_{rr}			4.5		μC

5. Thermal resistance

Description	Symbol	Conditions	Characteristics			Unit
			Min.	Typ.	Max.	
Thermal resistance	$R th_{ch-c}$				1.0	℃/W
	$R th_{ch-a}$				35.0	℃/W

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6. 御注意 (Attention)

本製品は外国為替および外国貿易管理法の規定により戦略物資（または役務）に該当しますので、輸出する場合には、同法に基づく通商産業大臣の輸出許可が必要です。

This product described in this specification contain strategic product subject to COCOM requirements. They should not be exported without authorization from the appropriate governmental authorities.

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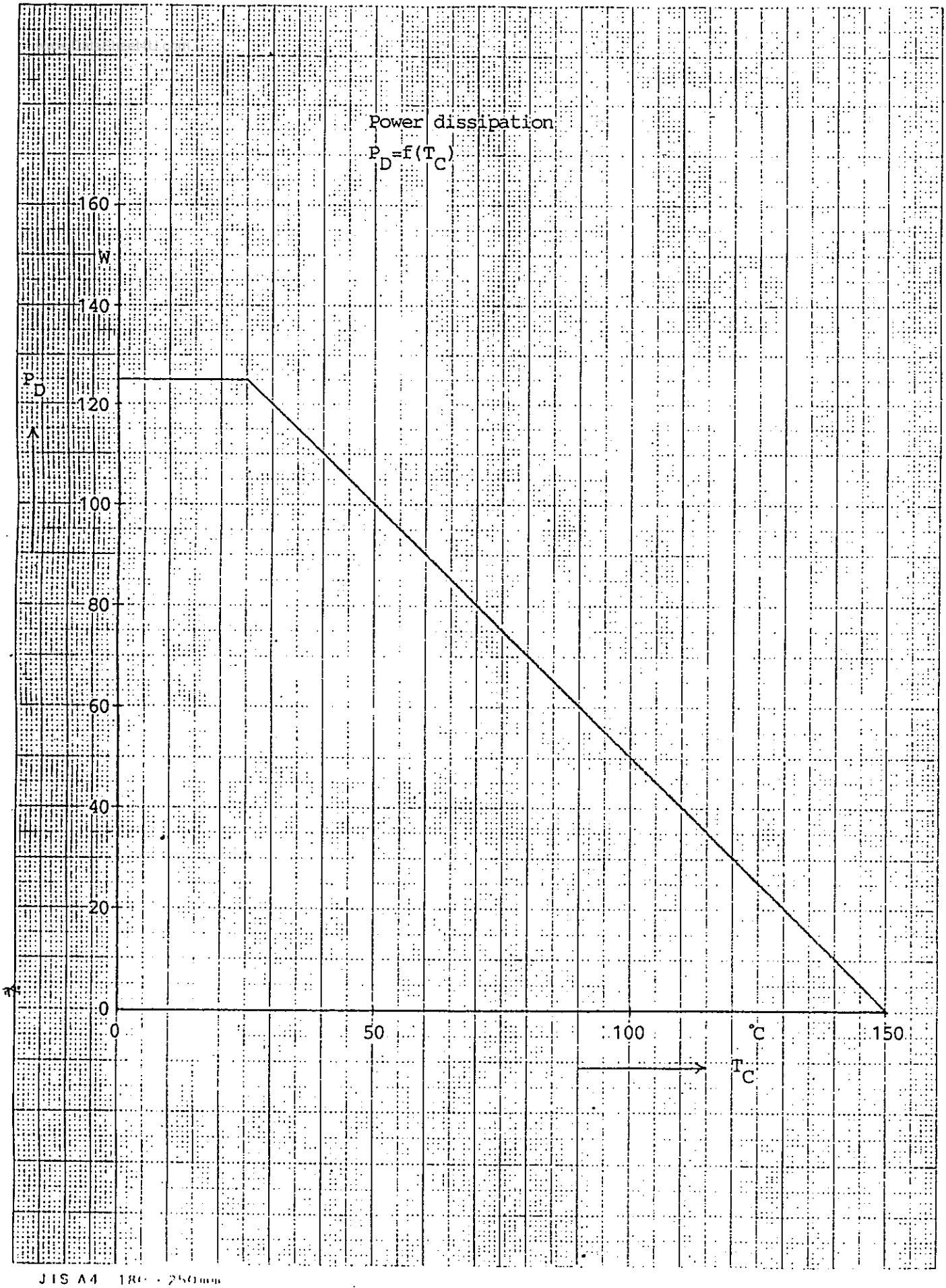
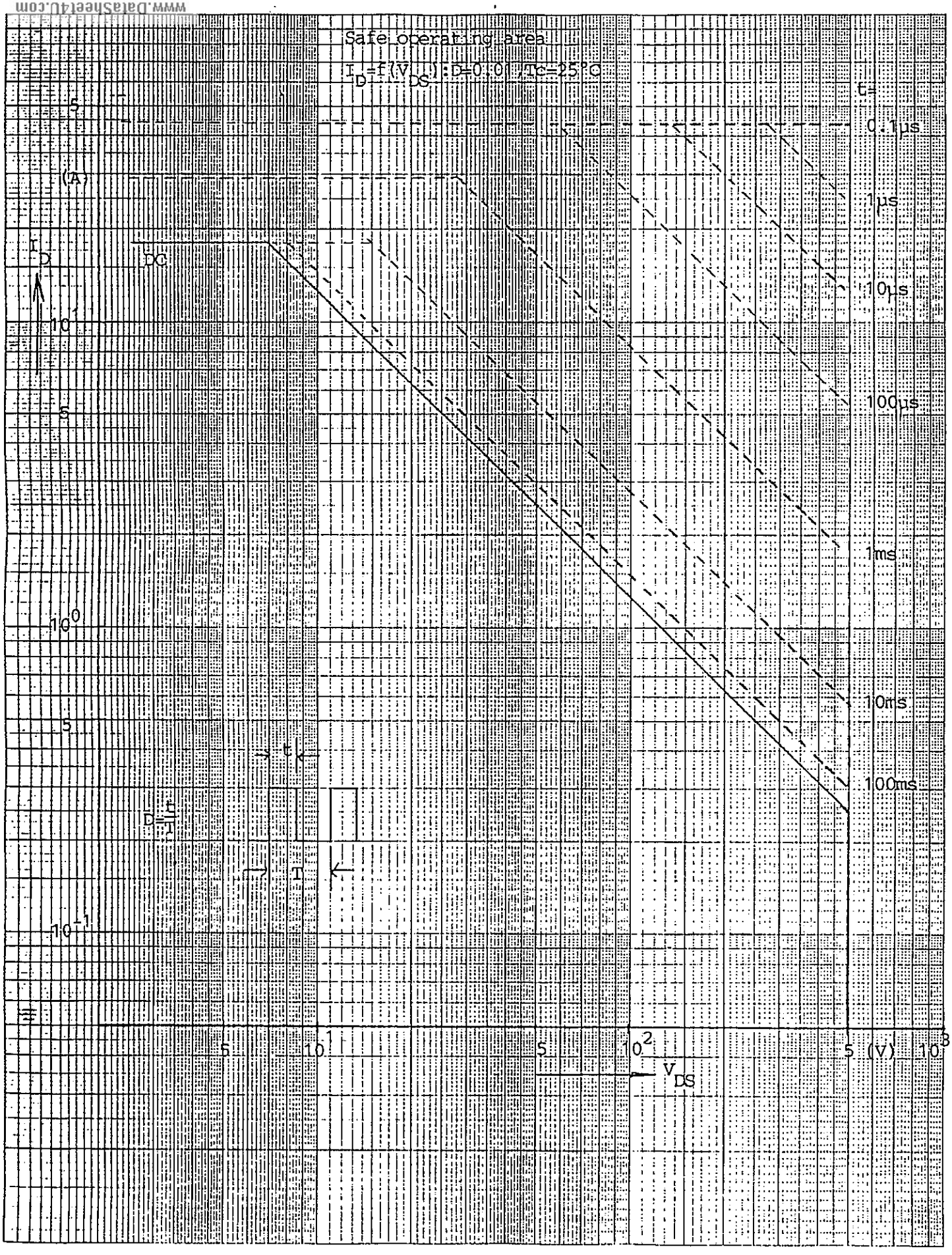
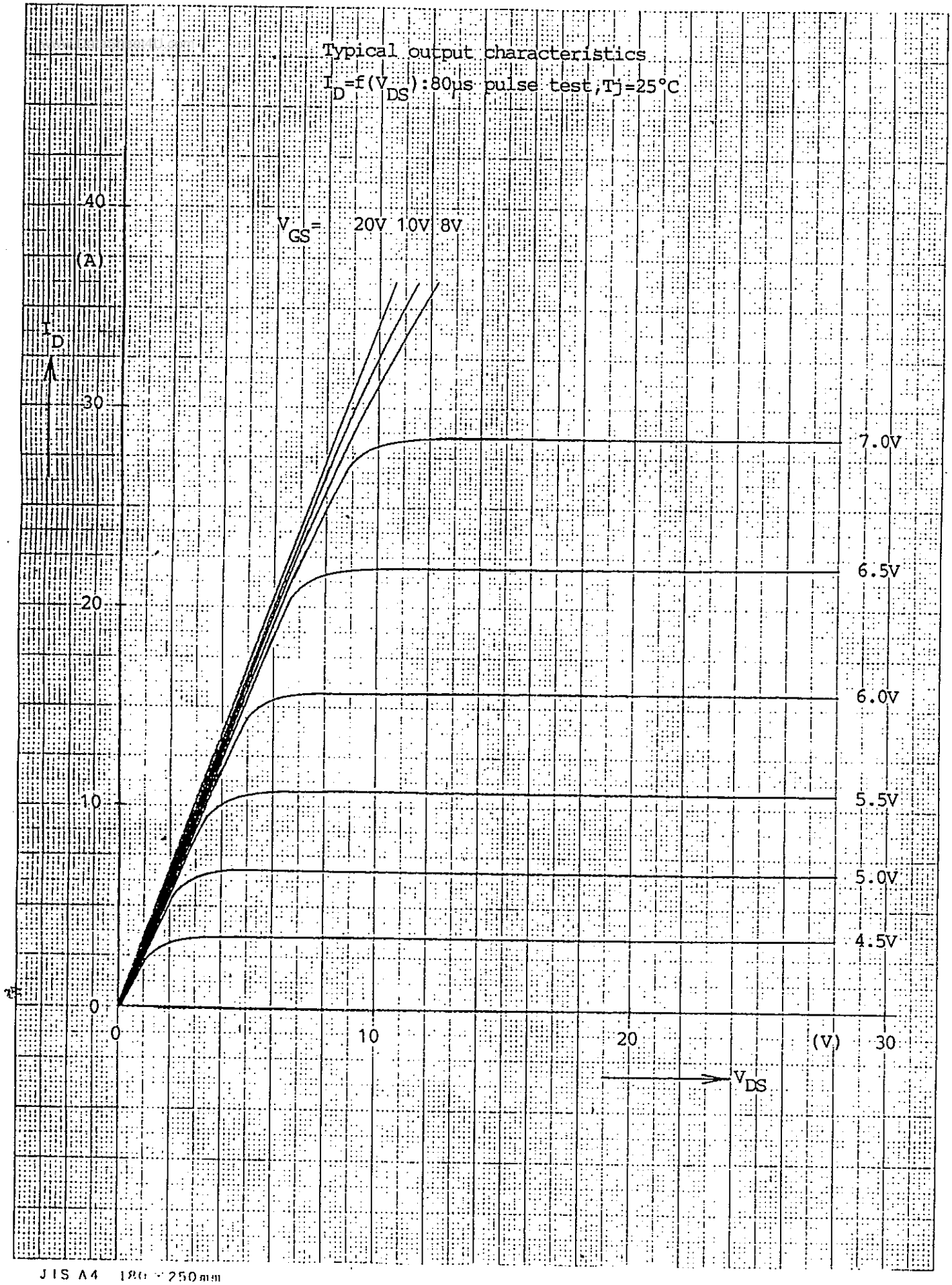


JIS A4 180 × 250mm





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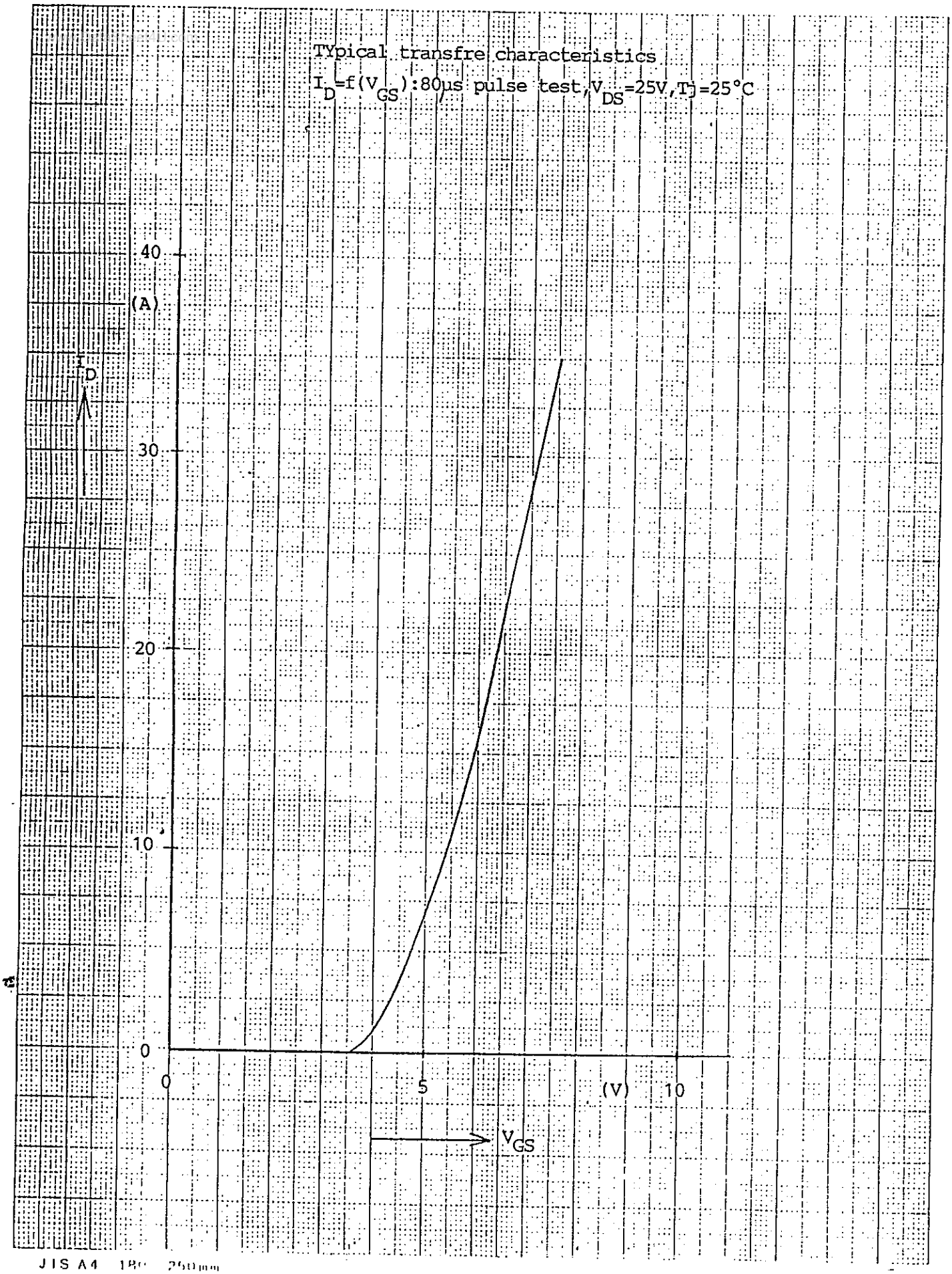

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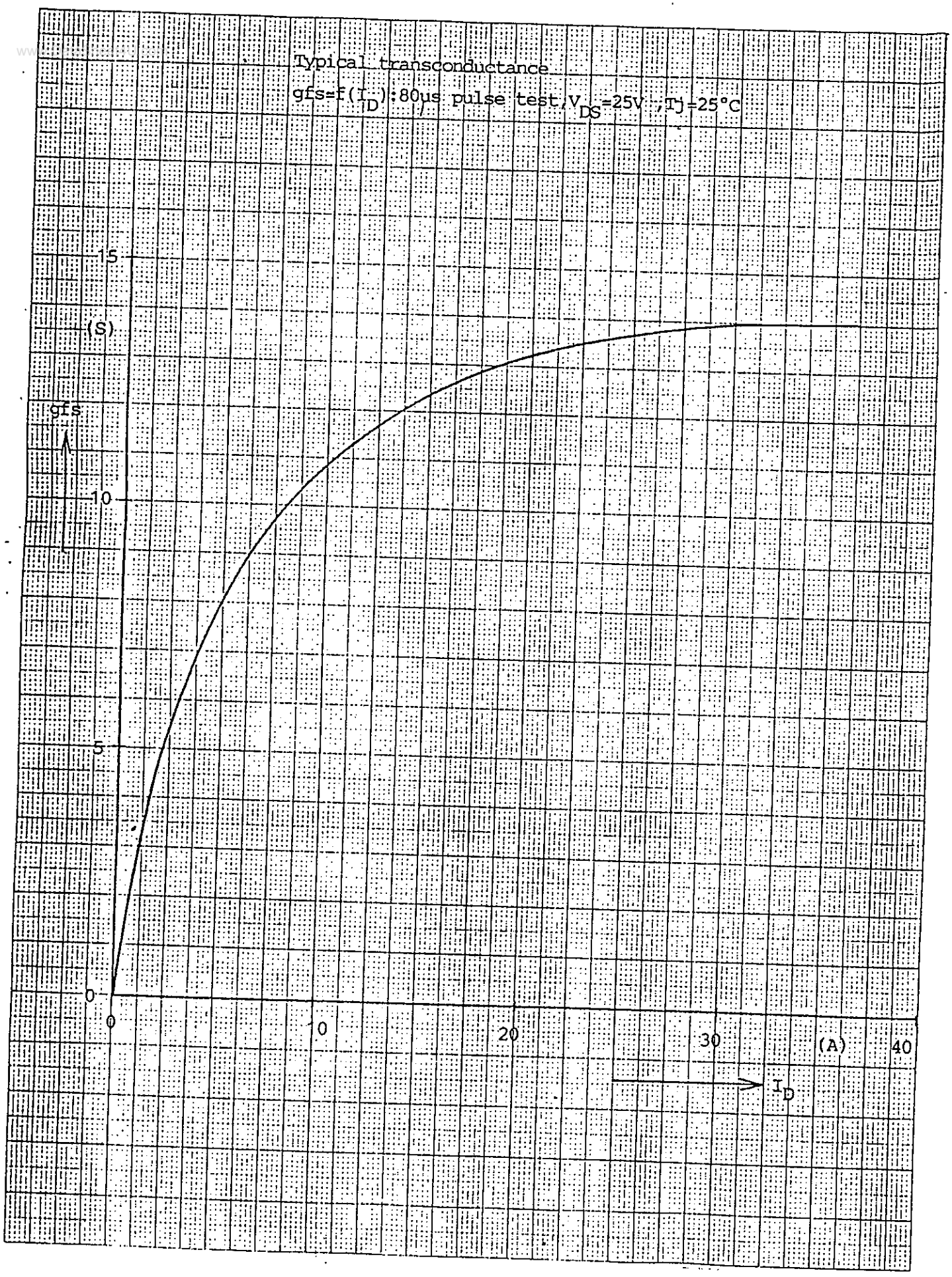

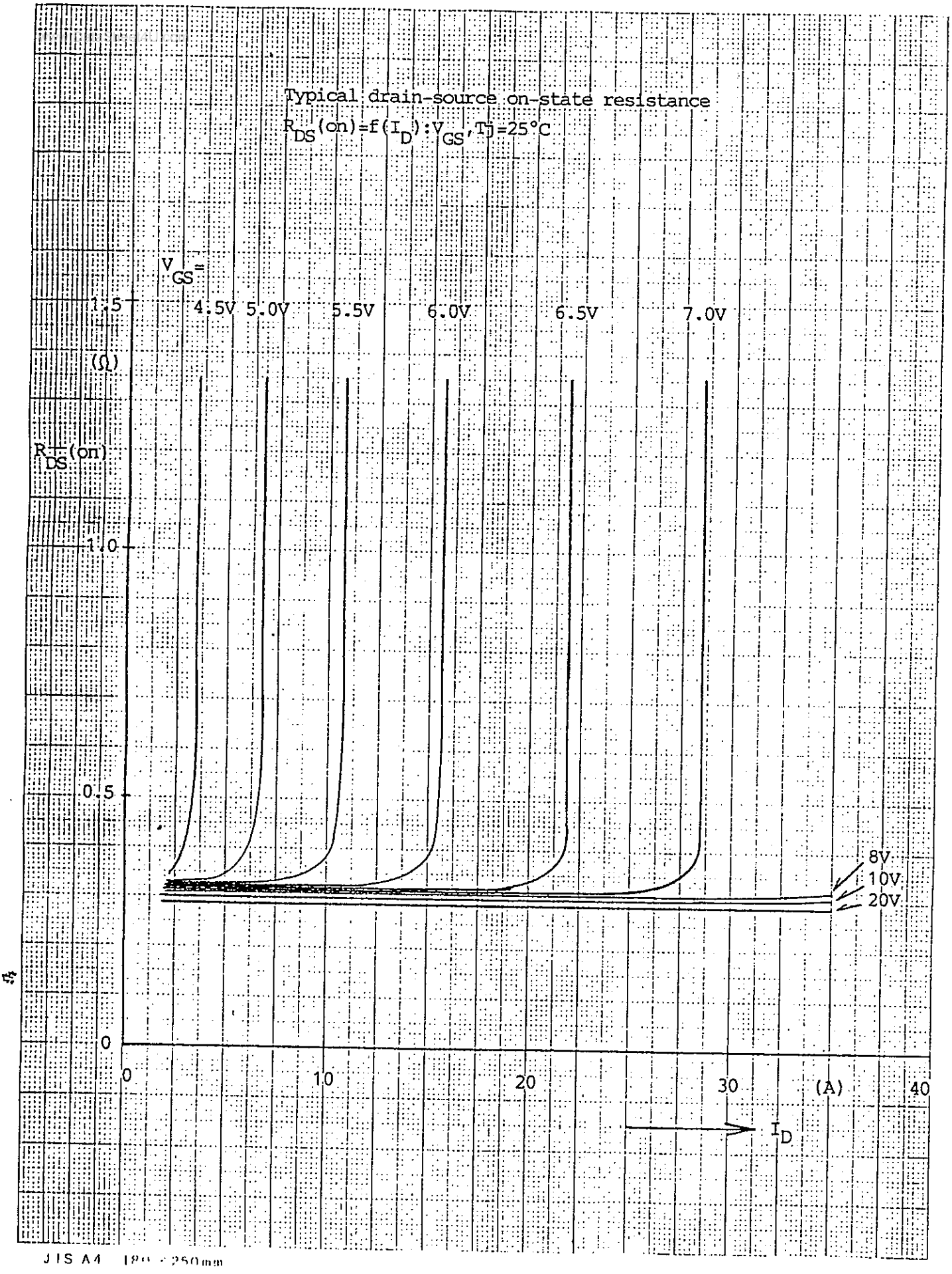

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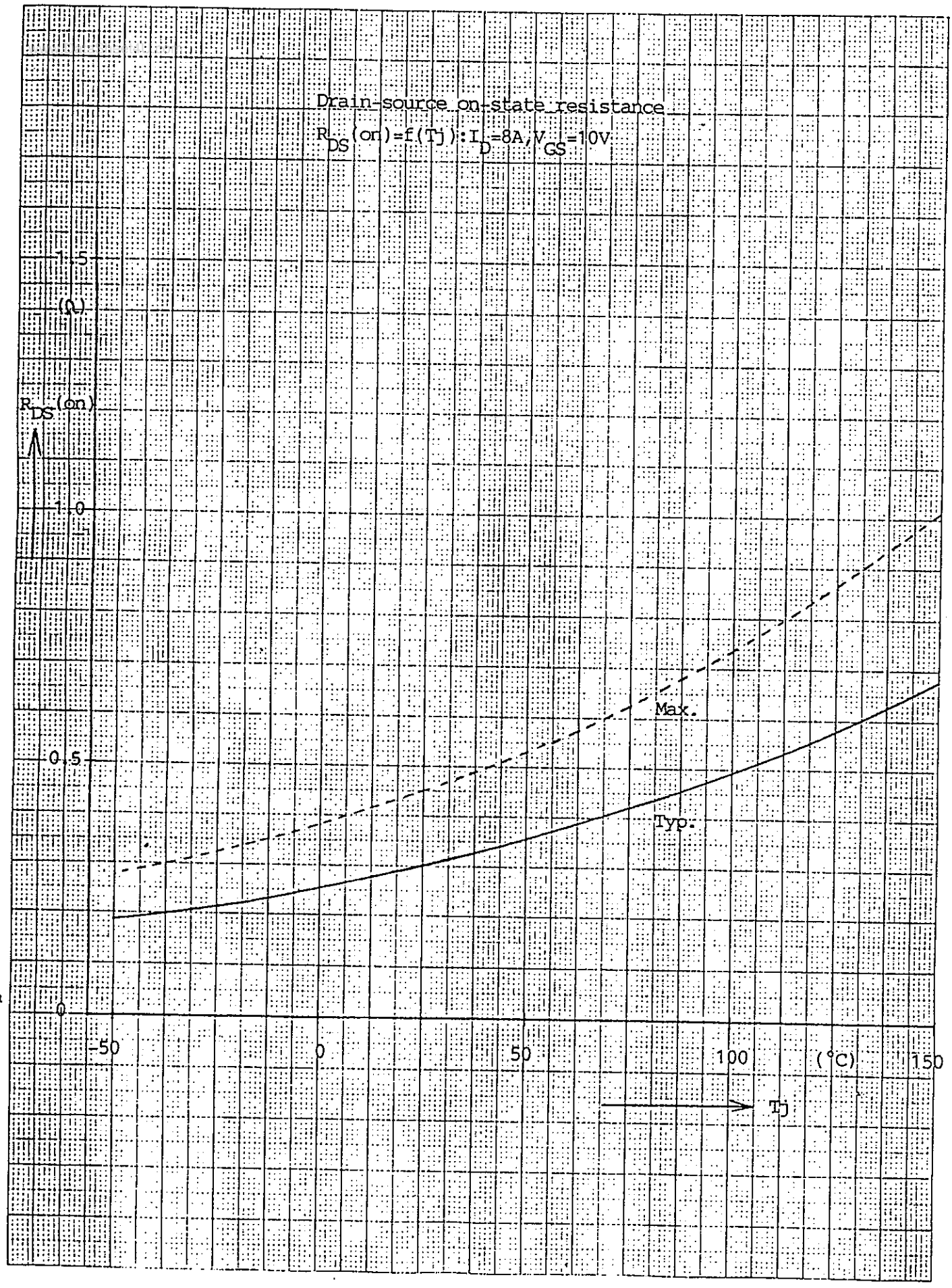
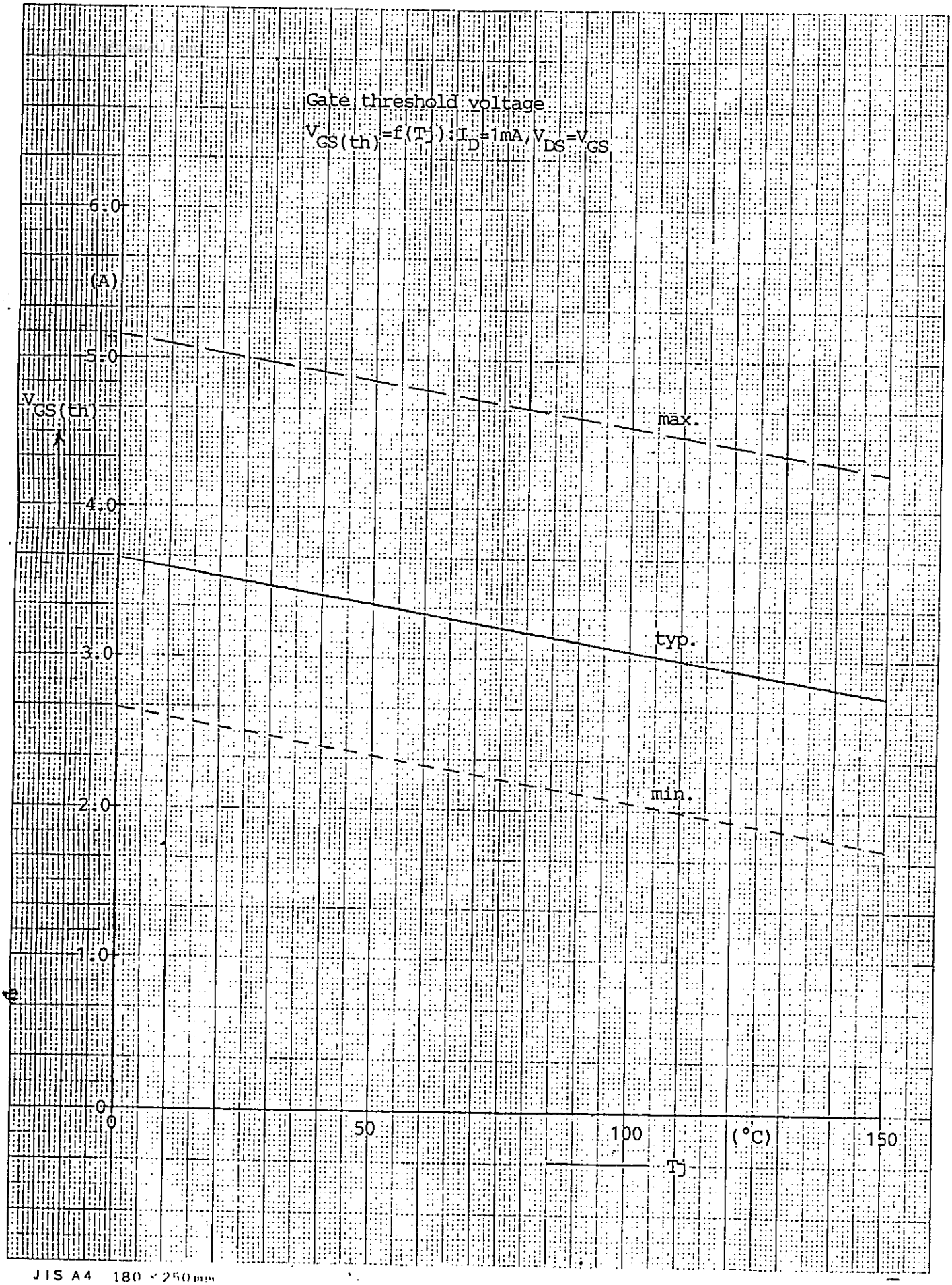
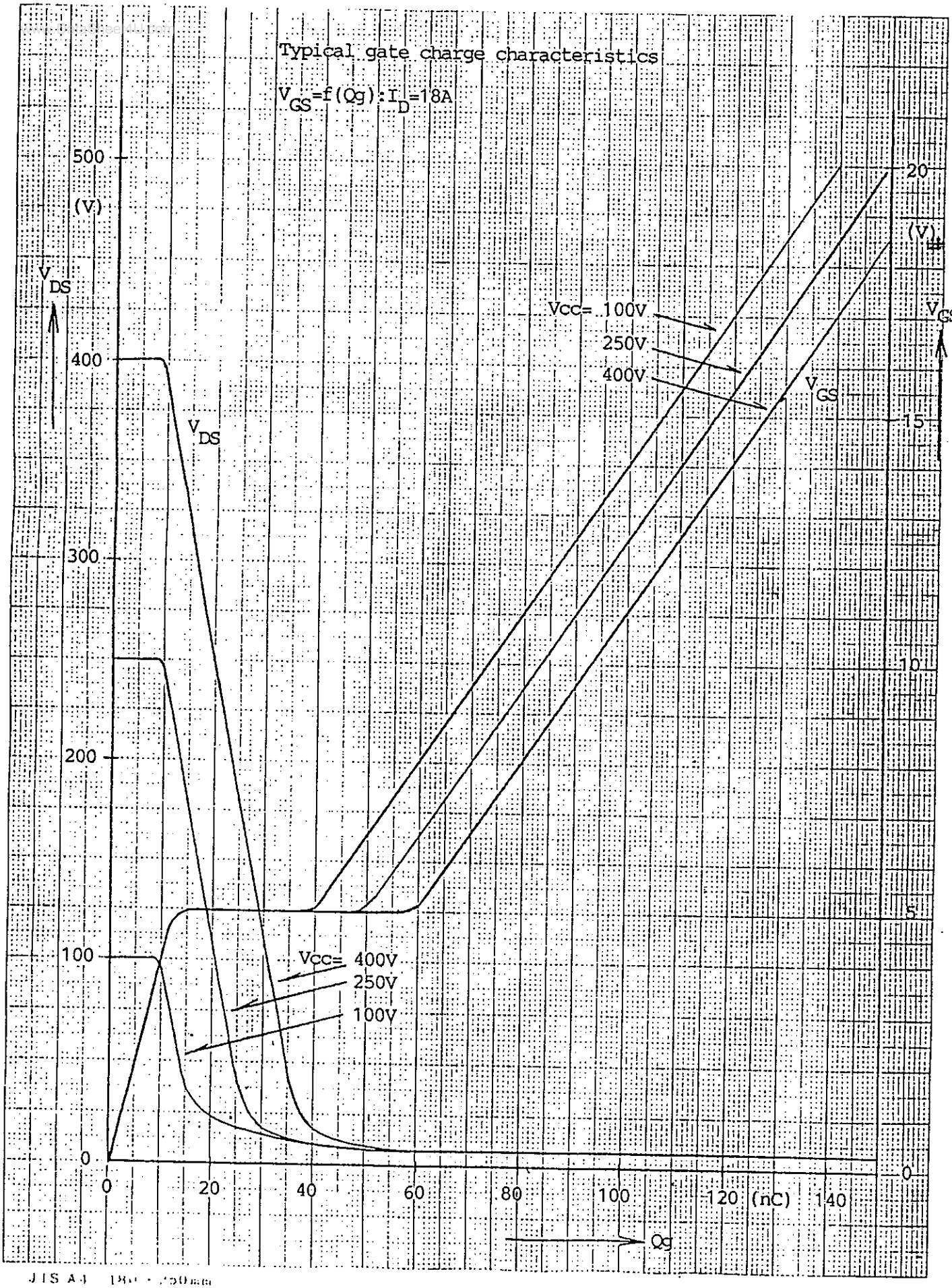
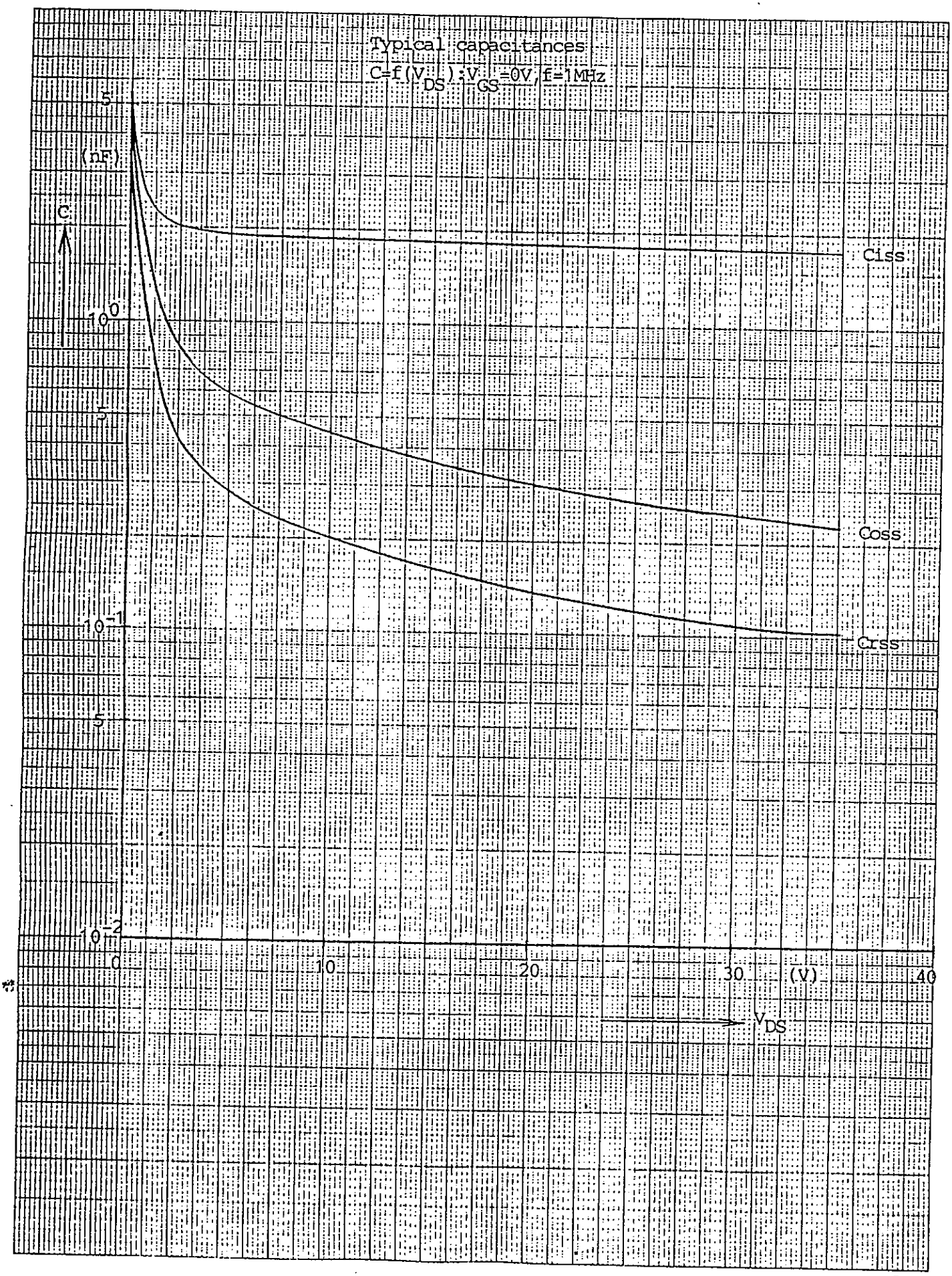


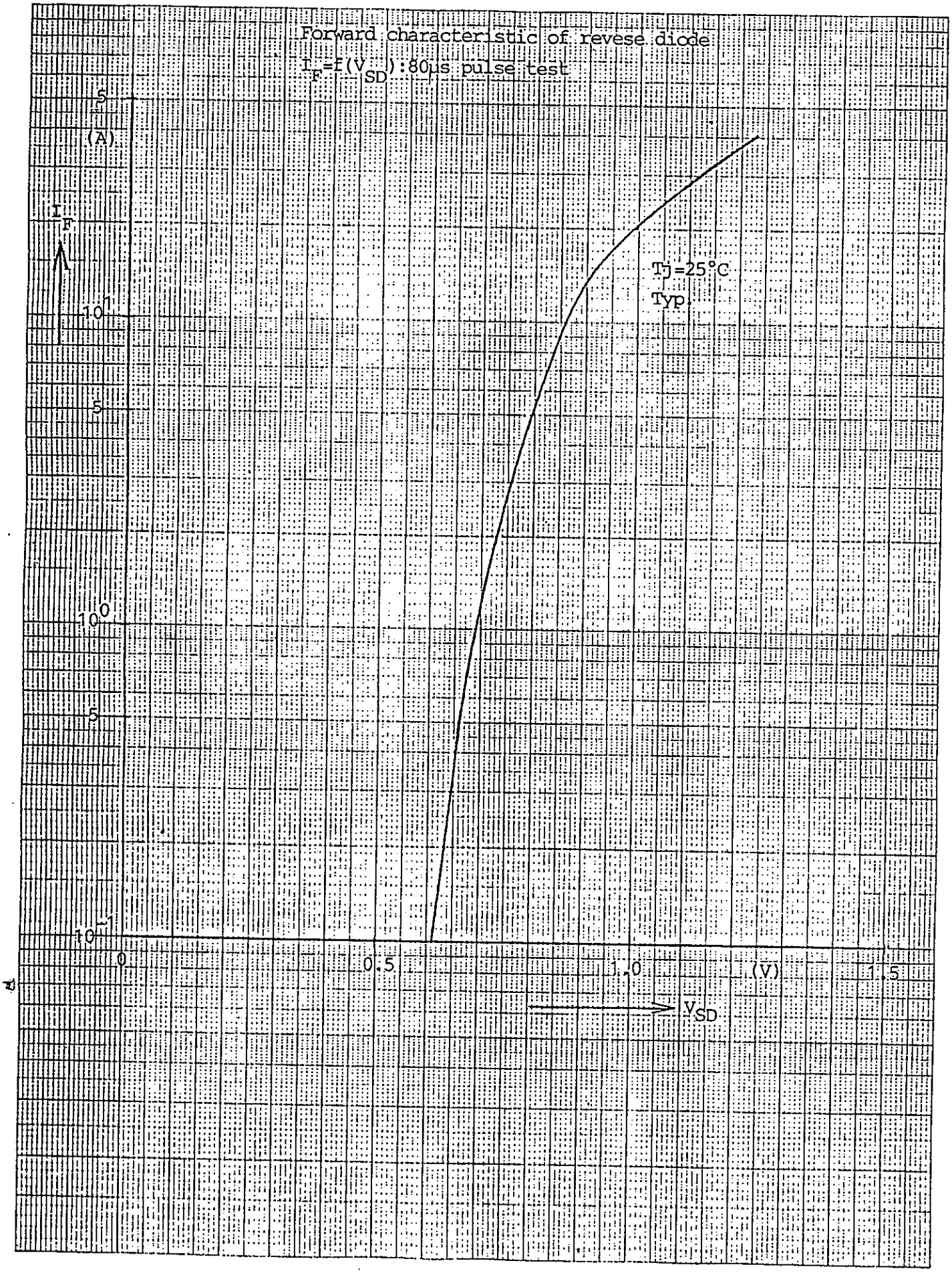


JIS A4 180 × 250mm



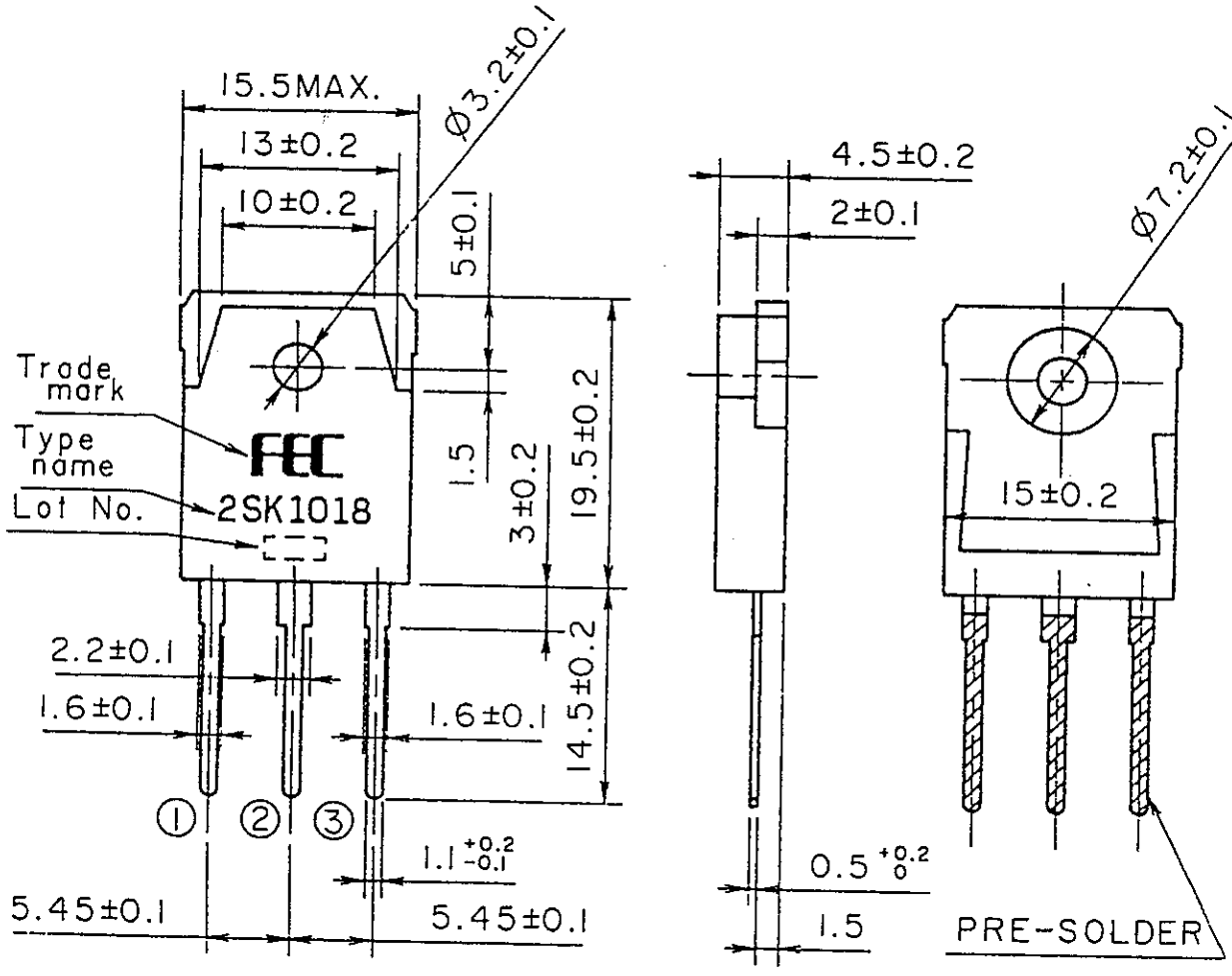
JIS A4





FUJI POWER MOS FET

TYPE : 2SK1018



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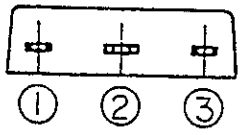

CONNECTION

① GATE
② DRAIN
③ SOURCE

JEDEC : TO-228AA
EIAJ : SC-65

MS.TO3P.2SK1018-E

	DATE	NAME	APPROVED
DRAWN	1990-02-16	MARUYAMA	
CHECKED	1990-02-16	ARAI	
REVISIONS			

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DWG.NO. MK5C24562

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