

**2SK2171**

High-Frequency, Low-Frequency Amplifier Analog Switch Applications

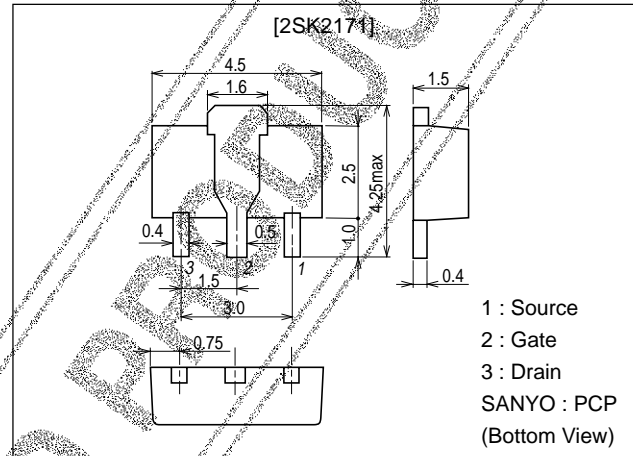
Features

- Adoption of FBET process.
- Large $|y_{fs}|$.
- Small Ciss.
- High P_D allowable power dissipation.

Package Dimensions

unit:mm

2125



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSX}		40	V
Gate-to-Drain Voltage	V_{GDS}		-40	V
Gate Current	I_G		10	mA
Drain Current	I_D		100	mA
Allowable Power Dissipation	P_D		400	mW
		Mounted on ceramic board (250mm \times 0.8mm)	800	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu\text{A}$, $V_{DS} = 0$	-40			V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = -20\text{V}$, $V_{DS} = 0$			-1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}^*	$V_{DS} = 10\text{V}$, $V_{GS} = 0$	40*		75*	mA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$, $I_D = 100\mu\text{A}$	-2.0	-3.0	-5.0	V
Forward Transfer Admittance	$ y_{fs} _1$	$V_{DS} = 10\text{V}$, $I_D = 10\text{mA}$, $f = 1\text{kHz}$	10	15		mS
	$ y_{fs} _2$	$V_{DS} = 10\text{V}$, $V_{GS} = 0$, $f = 1\text{kHz}$	22	30		mS

** : Pulse Test Pulse Width 2ms

* : The 2SK2171 is classified by I_{DSS} as follows : (unit : mA)

Marking : KM

 I_{DSS} rank : 3, 4, 5

40	3	52	48	4	63	57	5	75
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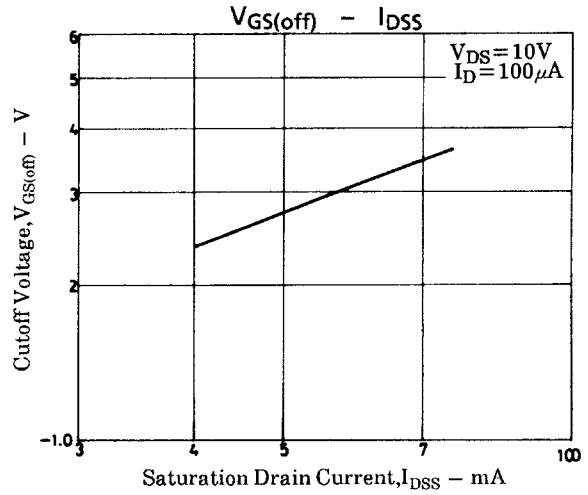
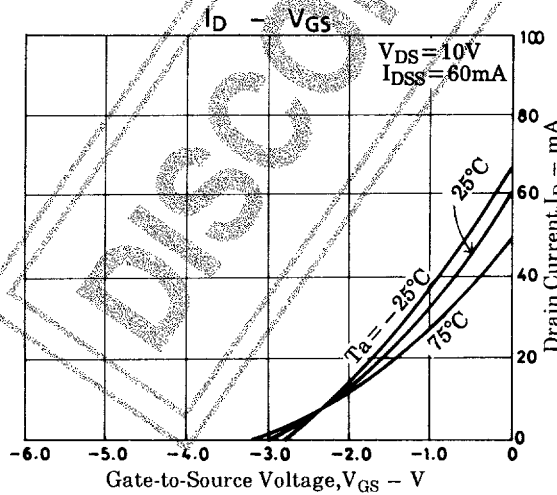
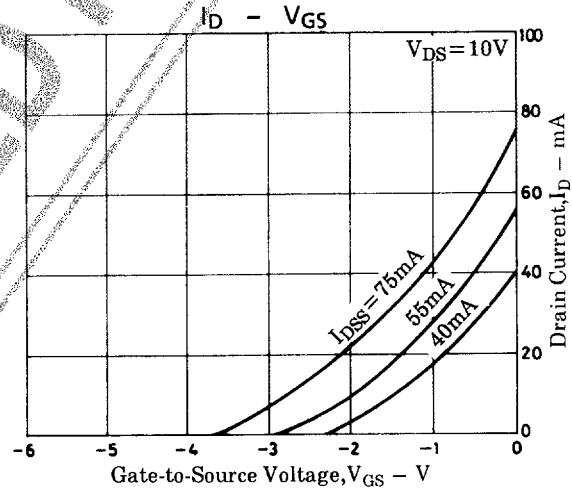
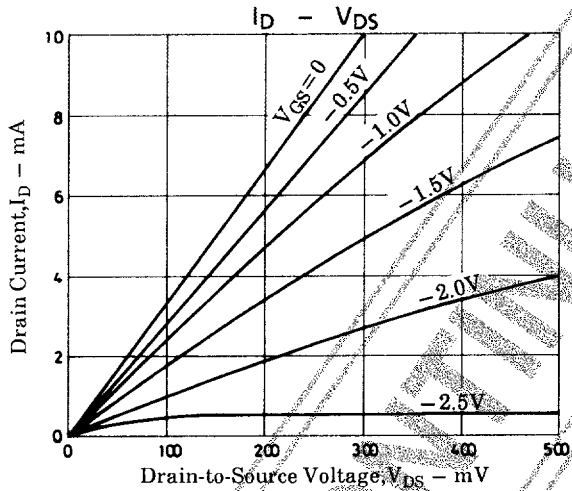
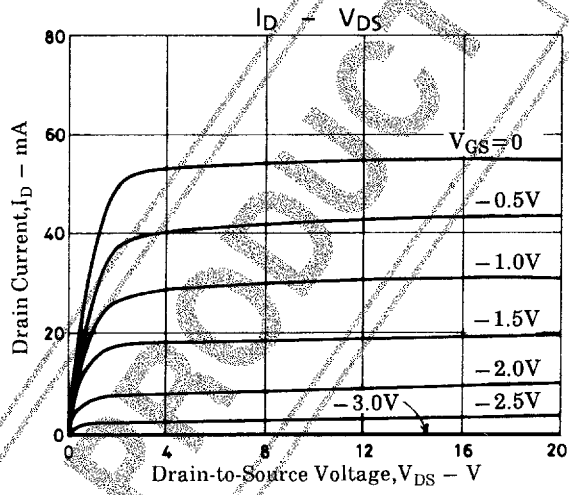
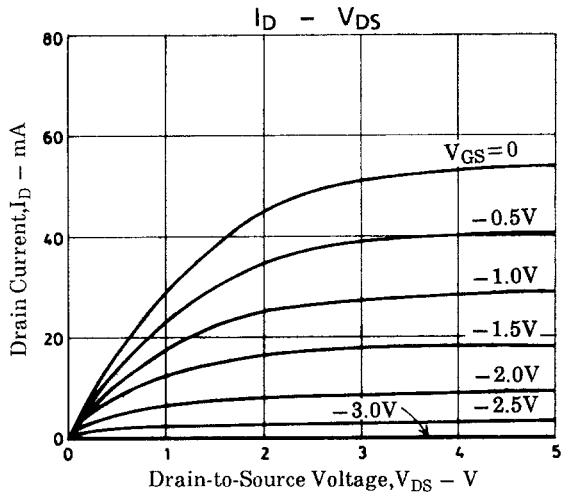
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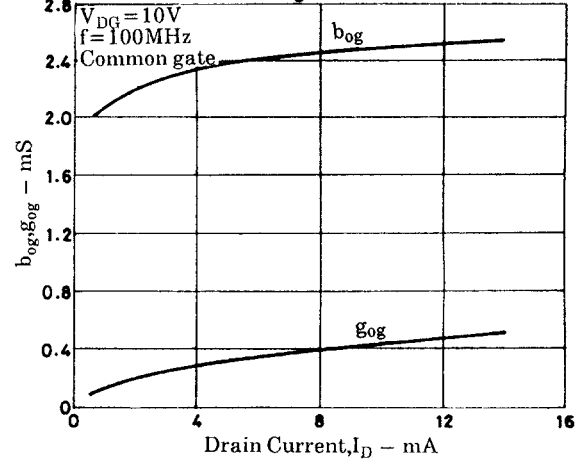
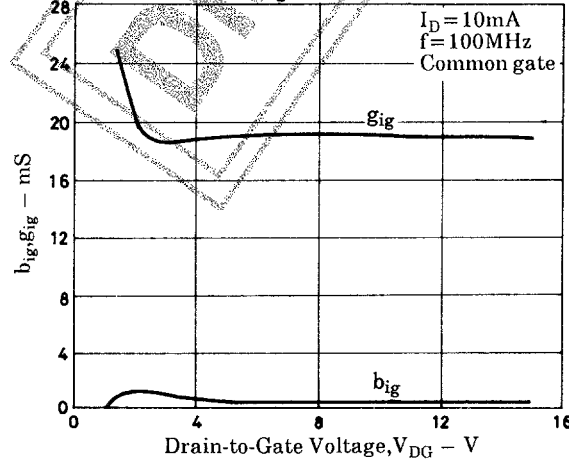
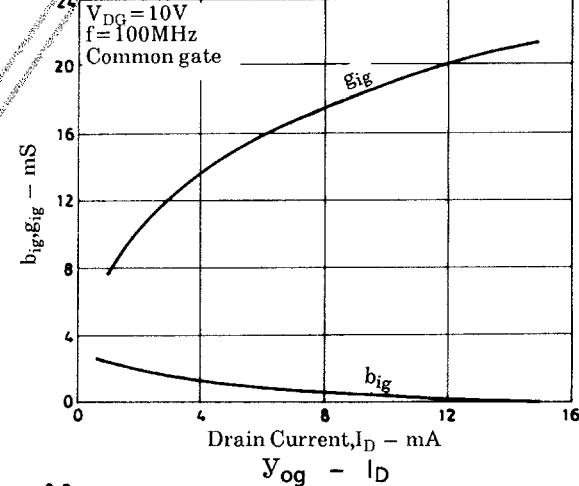
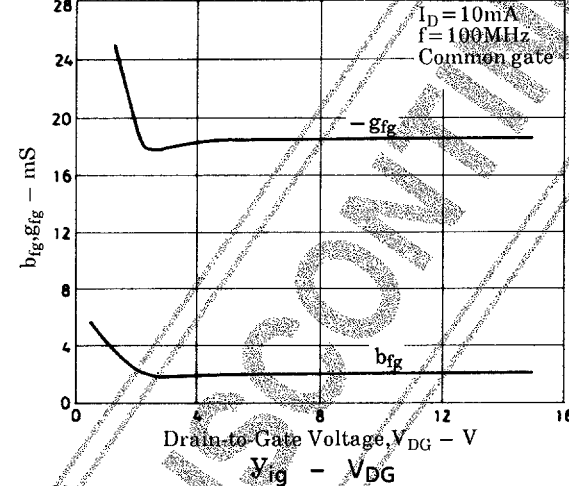
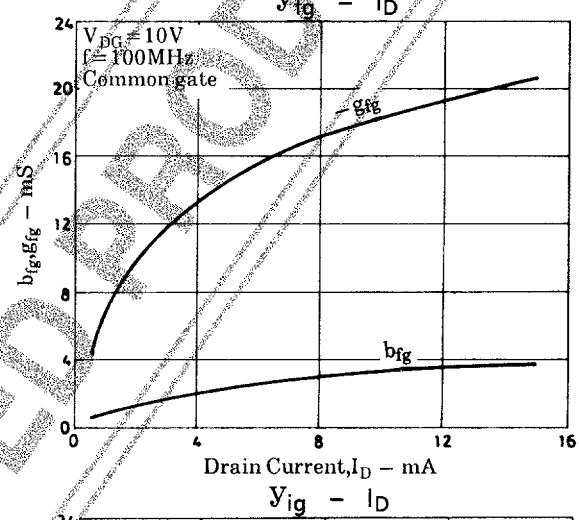
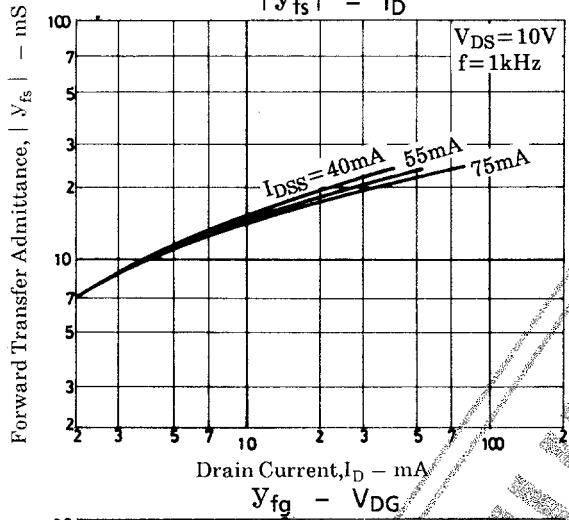
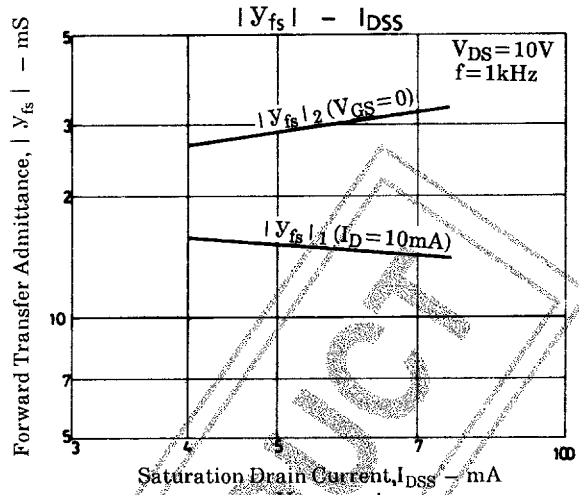
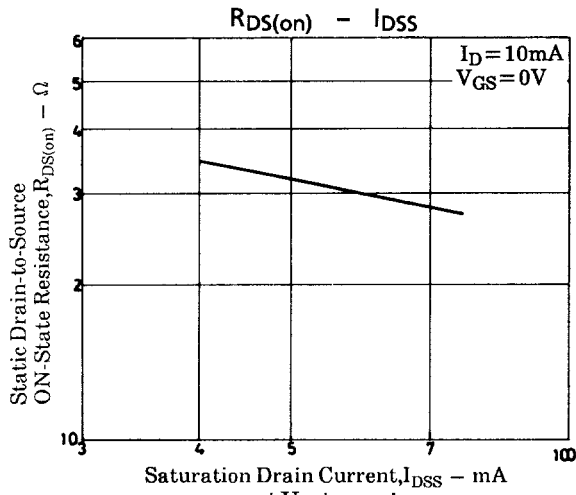
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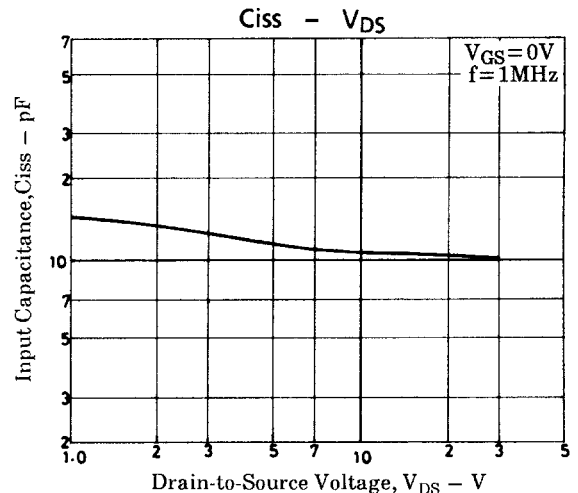
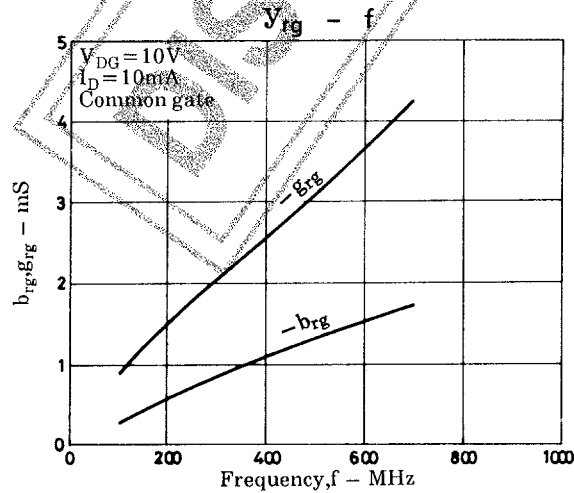
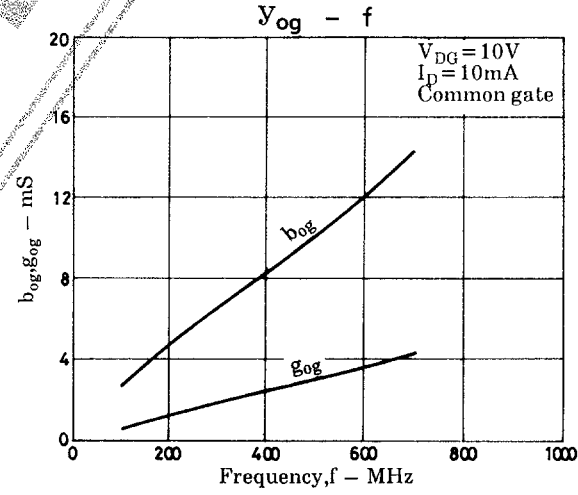
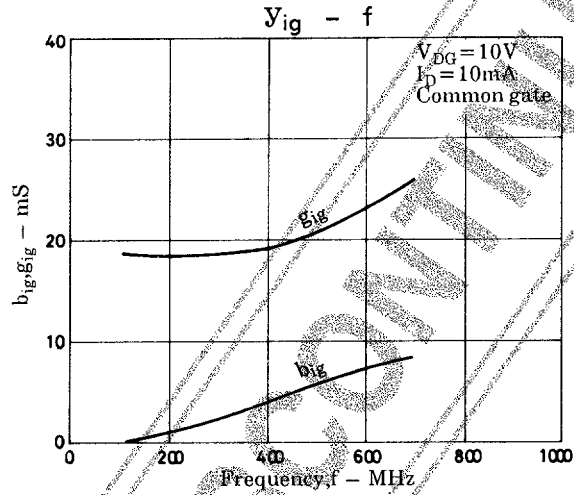
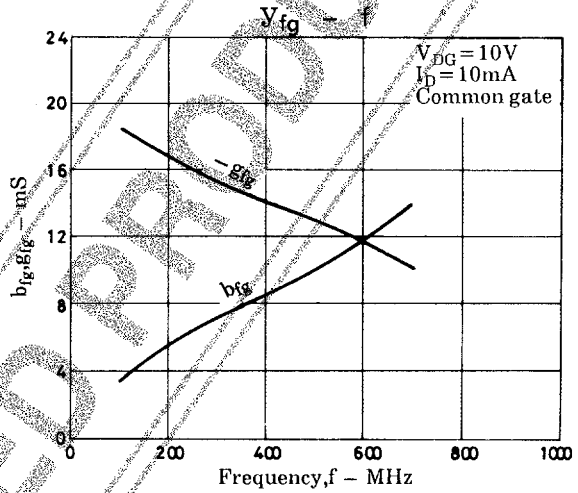
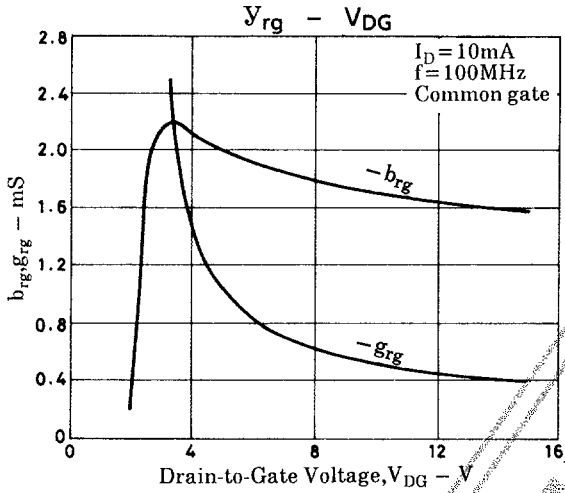
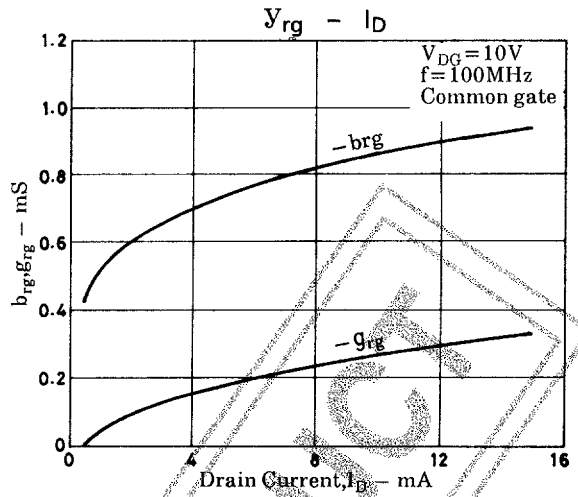
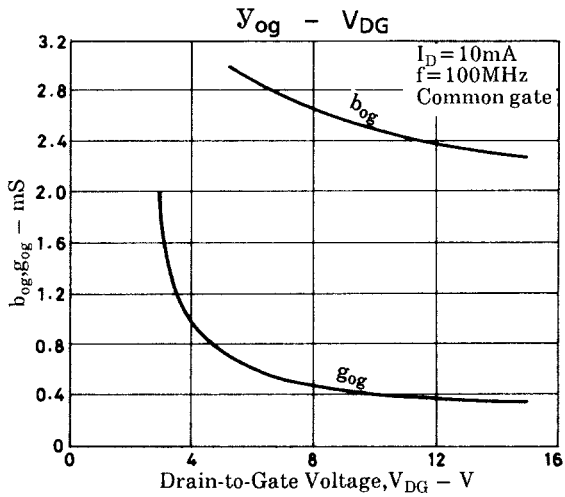
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$		11		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$		2.5		pF
Noise Figure	NF	$V_{DS}=10V, R_g=1k\Omega, I_D=1mA, f=1kHz$		1.5		dB
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$V_{DS}=10mV, V_{GS}=0$		30		Ω



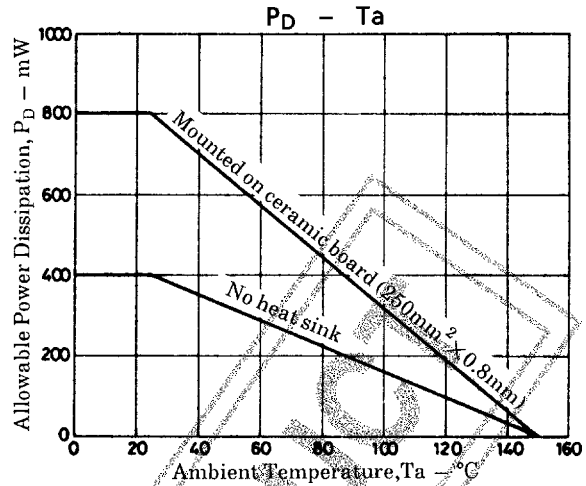
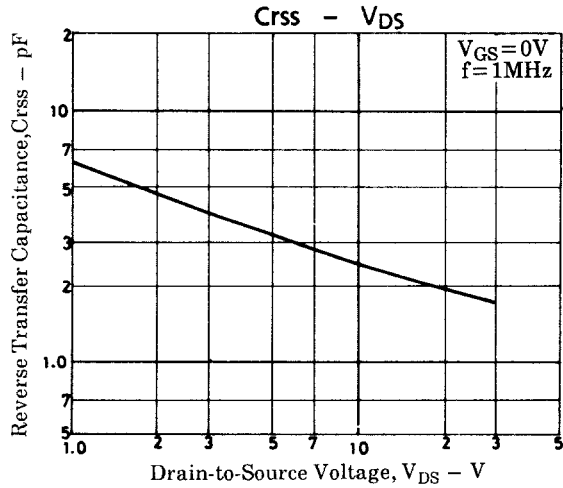
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