



2SK1740 — N-Channel Junction Silicon FET

HF Amplifiers Low-Frequency Amplifiers Analog Switches

Features

- Adoption of FBET process.
- Large $|y_{fs}|$.
- Small Ciss
- Small-sized package permitting 2SK1740-applied sets to be made small and slim.

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		75	mA
Allowable Power Dissipation	P_D		250	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	$V_{(BR)GDS}$	$I_G=-10\mu\text{A}$, $V_{DS}=0\text{V}$	-40			V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=-20\text{V}$, $V_{DS}=0\text{V}$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=100\mu\text{A}$	-2.0	-3.0	-5.0	V
Drain Current	I_{DSS}	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$	40*		75*	mA
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$	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{kHz}$	22	30		mS
Input Capacitance	Ciss	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$			11	pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$			2.5	pF
Noise Figure	NF	$V_{DS}=10\text{V}$, $R_g=1\text{k}\Omega$, $I_D=1\text{mA}$, $f=1\text{kHz}$			1.5	dB
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=10\text{mA}$, $V_{GS}=0\text{V}$			30	Ω

Marking : IJ

* : Pulse Test Pulse Width $\leq 2\text{ms}$.

* : The 2SK1740 is classified by I_{DSS} as follows : (unit : mA).

Rank	3	4	5
I_{DSS}	40 to 52	48 to 63	57 to 75

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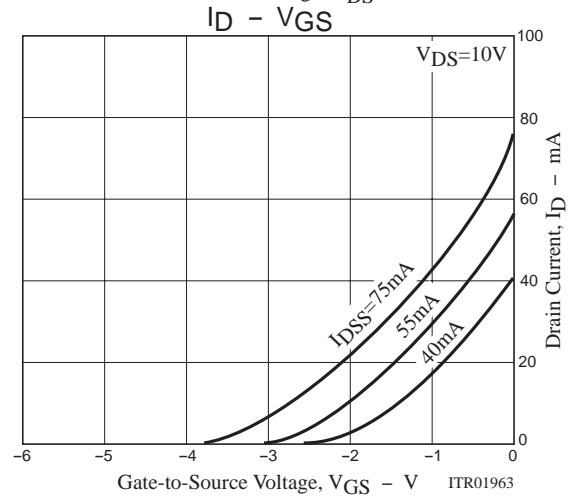
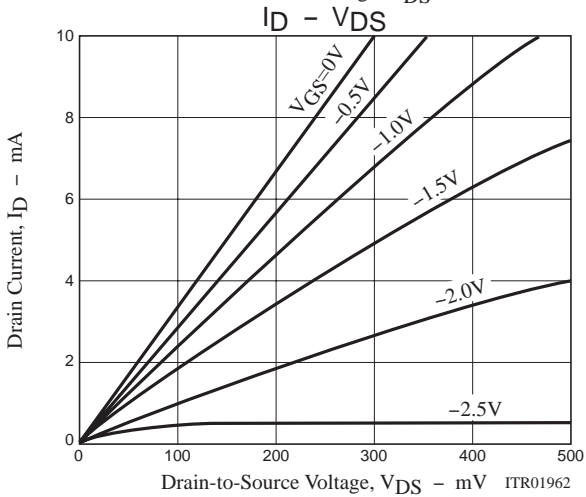
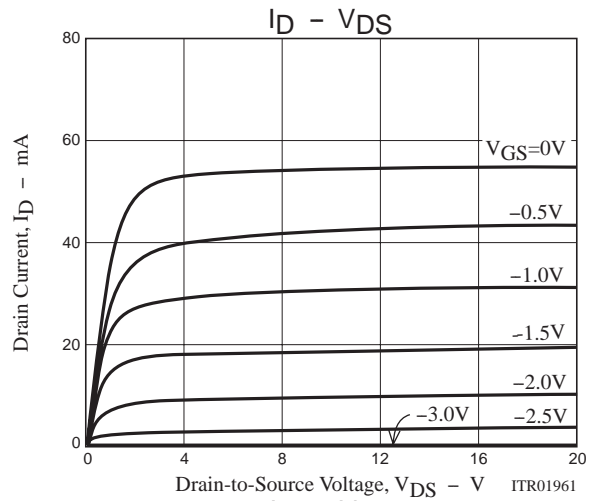
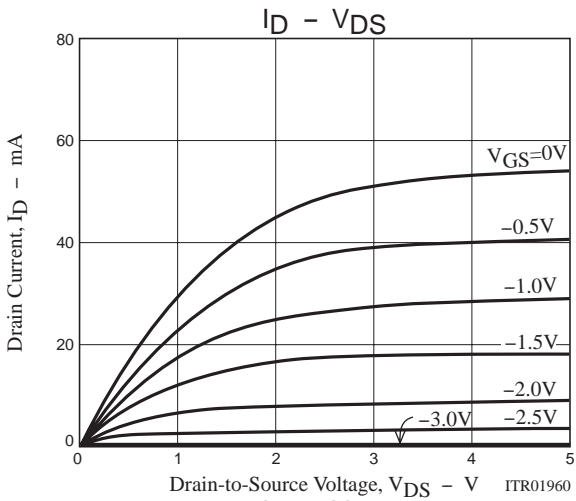
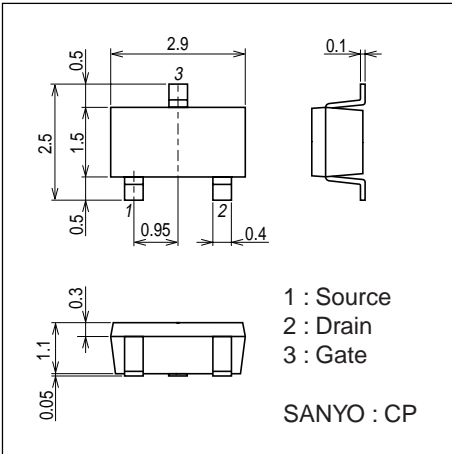
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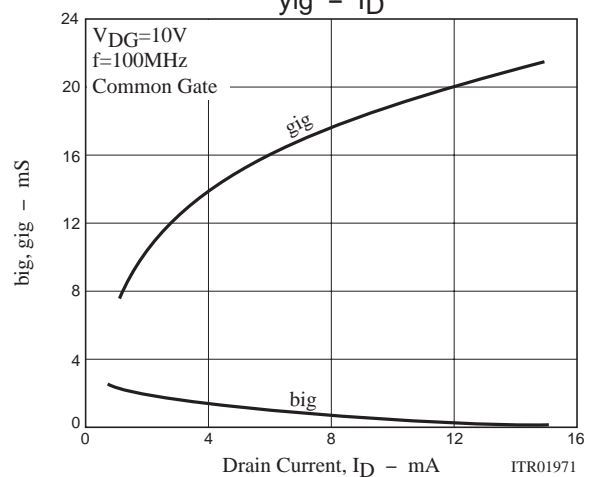
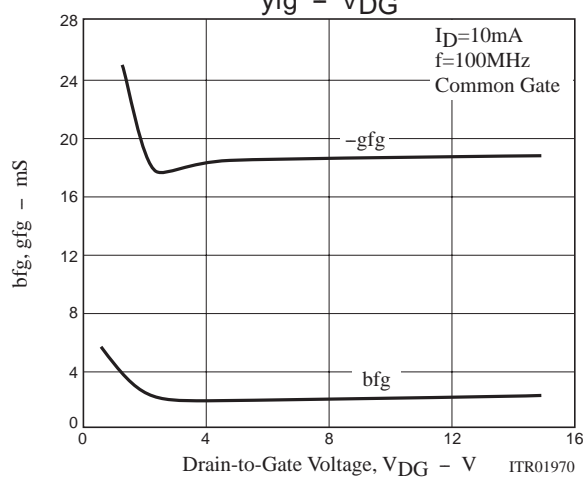
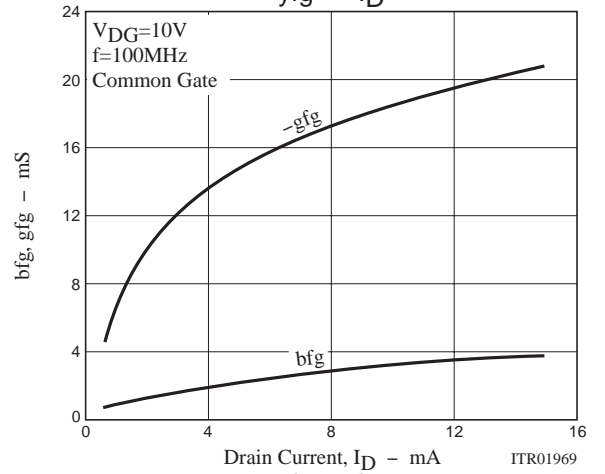
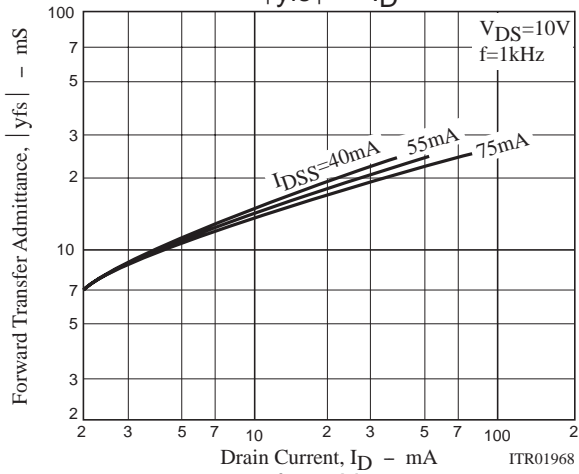
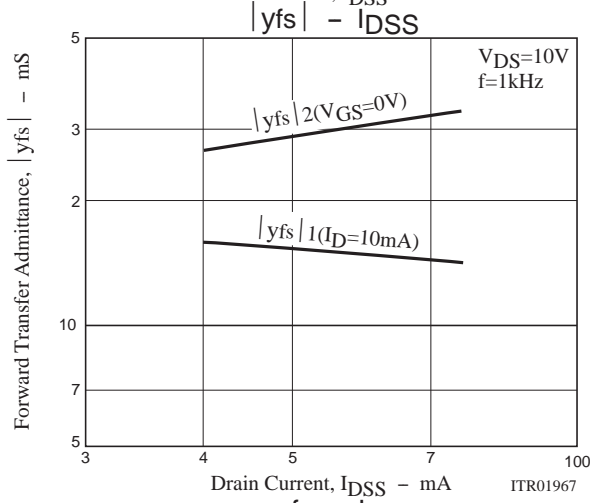
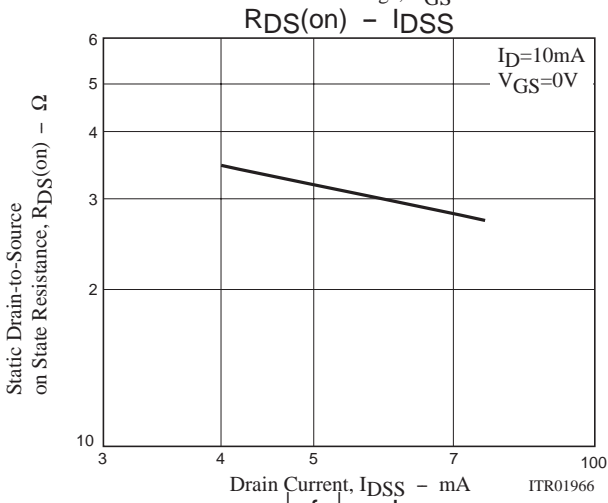
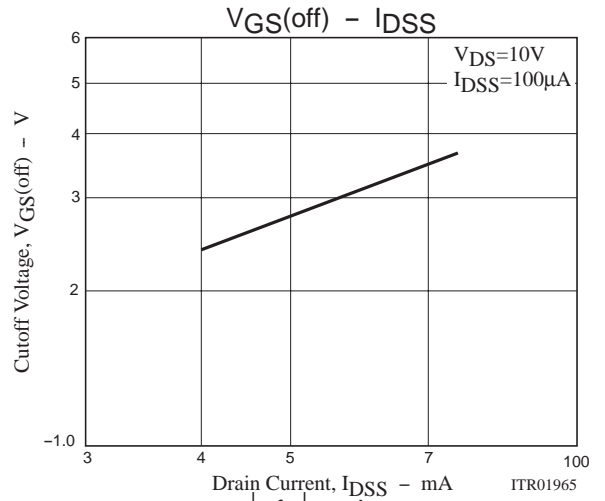
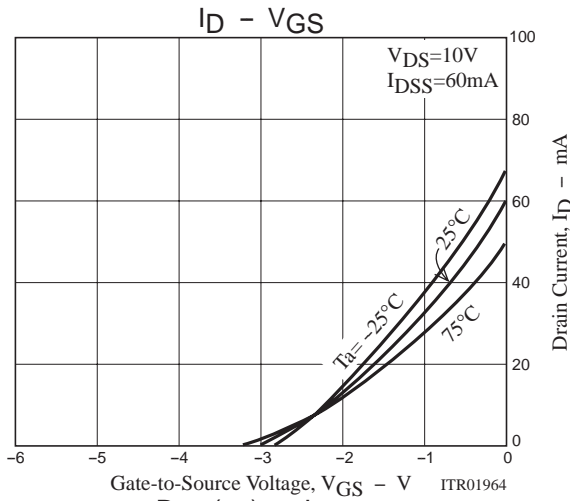
Package Dimensions

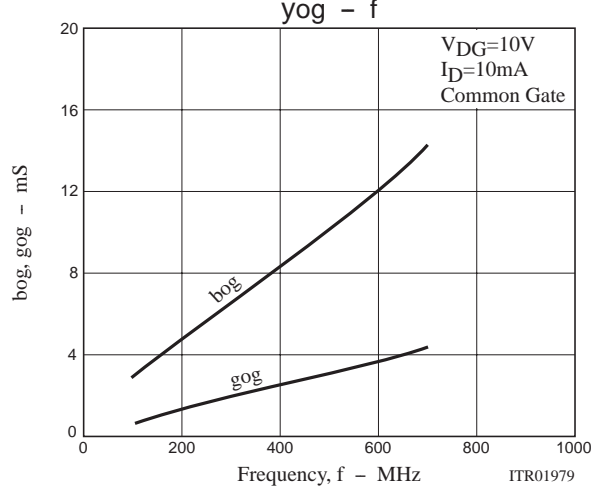
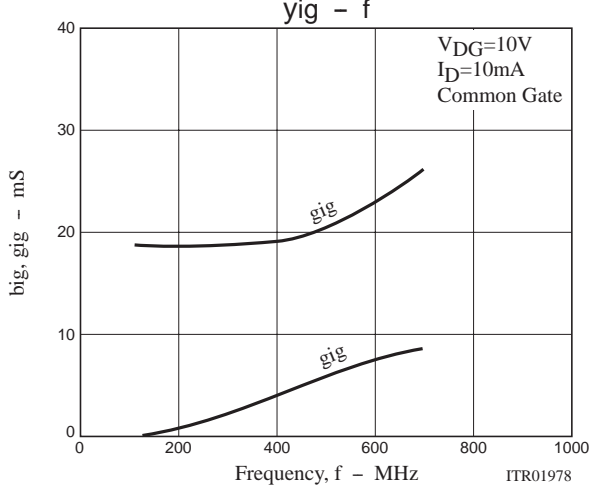
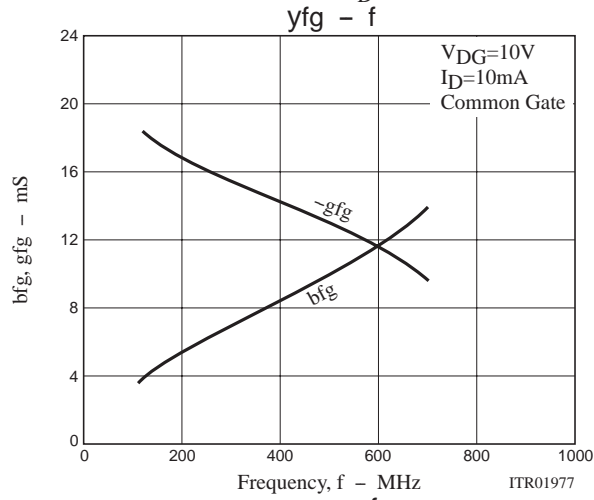
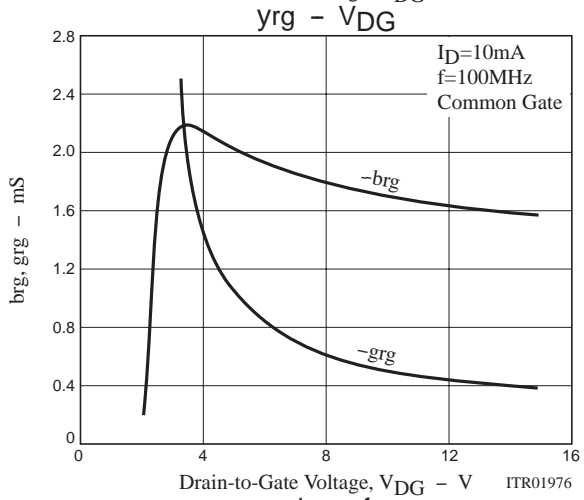
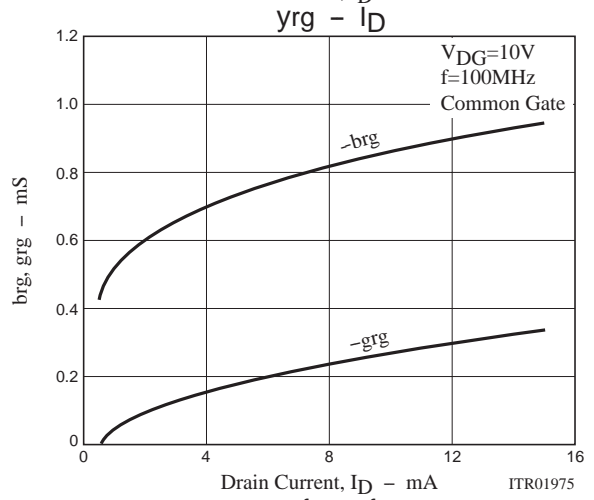
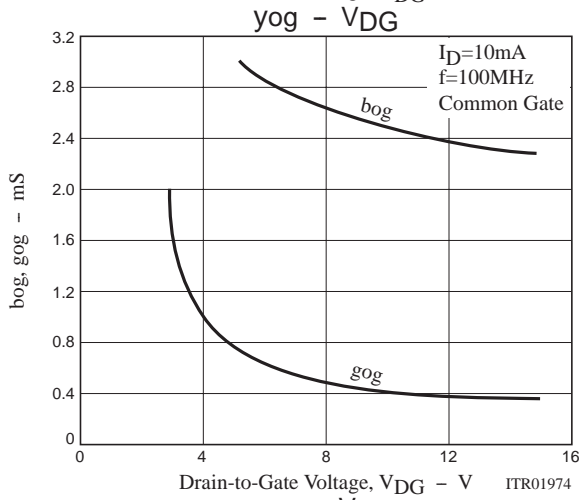
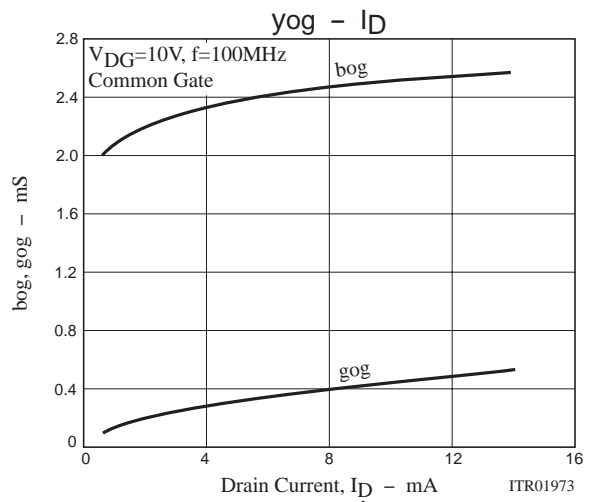
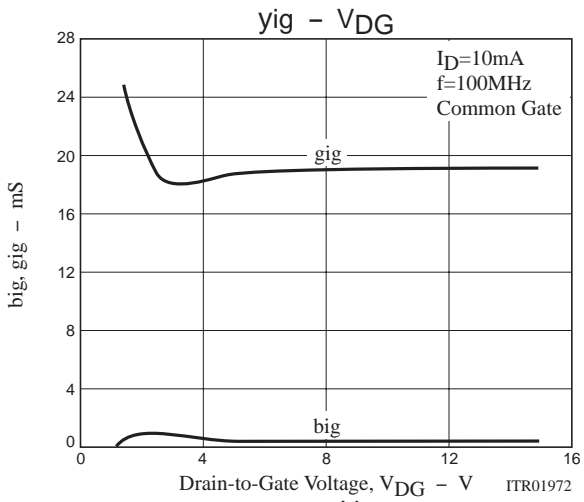
unit : mm (typ)

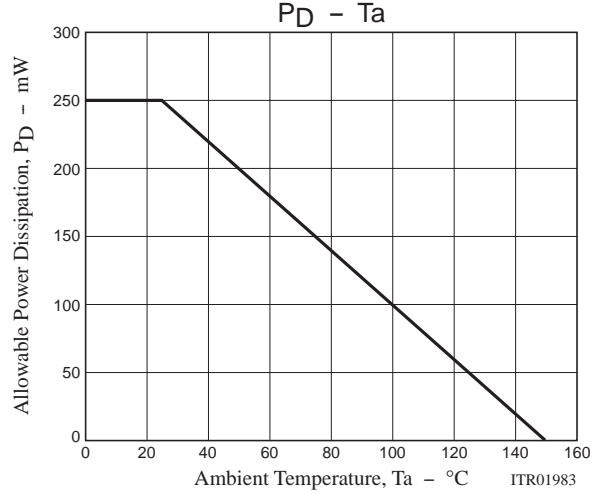
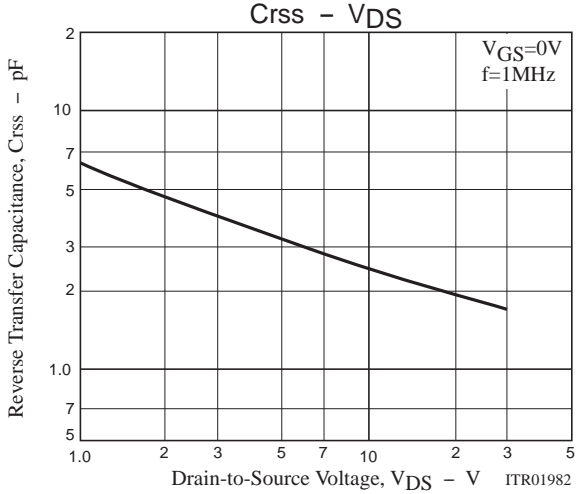
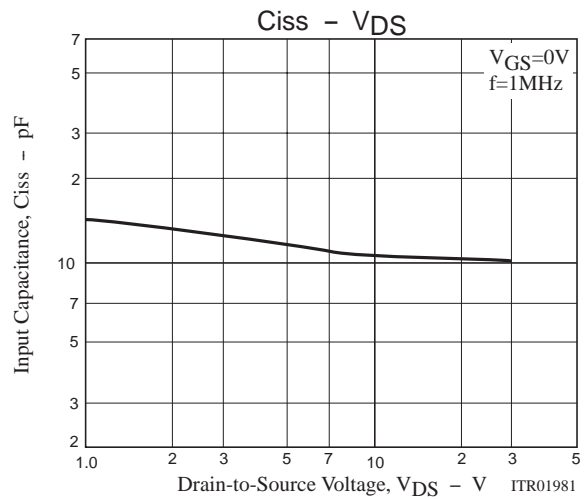
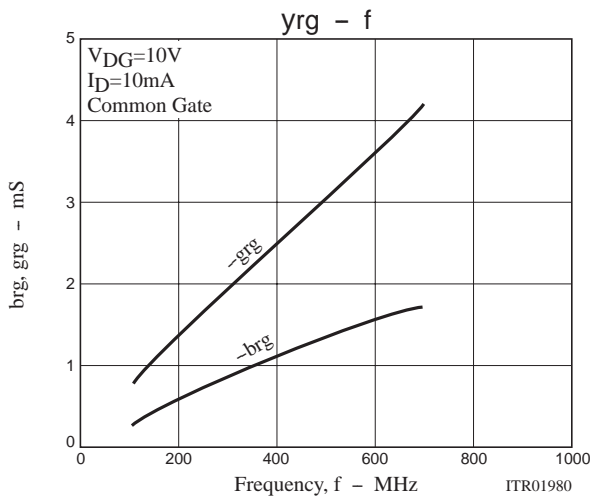
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