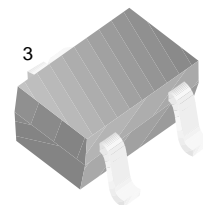


FJX597J

FJX597J

Capacitor Microphone Applications

- Especially Suited for use in Audio, Telephone Capacitor Microphones
- Excellent Voltage Characteristic
- Excellent Transient Characteristic



1 SOT-323
1. Base 2. Emitter 3. Collector

Si N-channel Junction FET

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{GDO}	Gate-Drain Voltage	-20	V
I_G	Gate Current	10	mA
I_D	Drain Current	1	mA
P_D	Power Dissipation	100	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

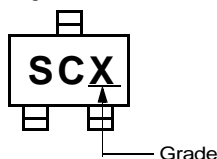
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GDO}	Gate-Drain Breakdown Voltage	$I_G = -100\mu\text{A}$	-20			V
$V_{GS(off)}$	Gate-Source Cut-off Voltage	$V_{DS}=5\text{V}, I_D=1\mu\text{A}$		-0.6	-1.5	V
I_{DSS}	Drain Current	$V_{DS}=5\text{V}, V_{GS}=0$	100		800	μA
$ Y_{FS} $	Forward Transfer Admittance	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$	0.4	1.2		ms
C_{ISS}	Input Capacitance	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		3.5		pF
C_{RSS}	Output Capacitance	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		0.65		pF

I_{DSS} Classification

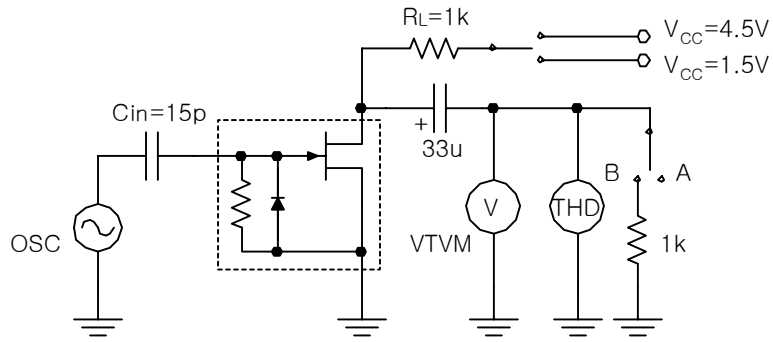
Classification	A	B	C	D	E
$I_{DSS}[\mu\text{A}]$	100 ~ 170	150 ~ 240	210 ~ 350	320 ~ 480	440 ~ 800

Marking



Specified Test Circuit $T_a=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
G_V	Voltage Gain	$V_{IN}=10\text{mV}$, $f=1\text{KHz}$		-3		dB
ΔG_V	Reduced Voltage Characteristic	$V_{IN}=10\text{mV}$, $f=1\text{KHz}$ $V_{CC}=4.5\text{V} \rightarrow 1.5\text{V}$		-1.2	-3.5	dB
ΔG_V	Frequency Characteristic	$f=1\text{KHz}$ to 110Hz			-1	dB
Z_{IN}	Input Resistance	$f=1\text{KHz}$	25			$\text{M}\Omega$
Z_O	Output Resistance	$f=1\text{KHz}$			700	Ω
THD	Total Harmonic Distortion	$V_{IN}=30\text{mV}$, $f=1\text{KHz}$		1		%
V_{NO}	Output Noise Voltage	$V_{IN}=0$, A CURVE			-110	dB



Typical Characteristics

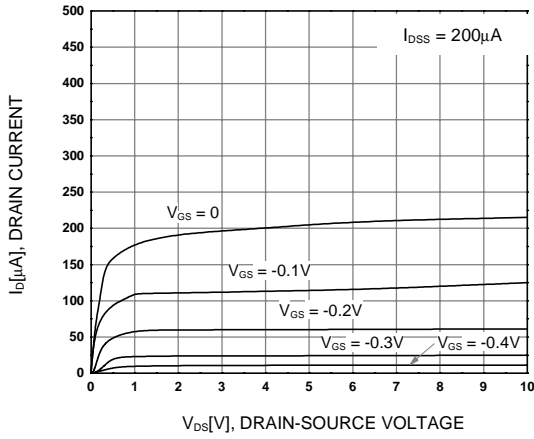


Figure 1. I_D - V_{DS}

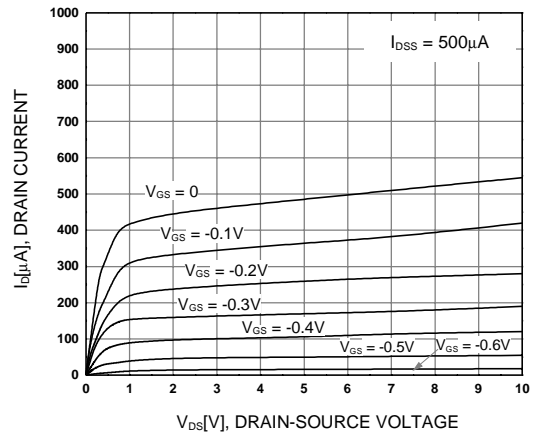


Figure 2. I_D - V_{DS}

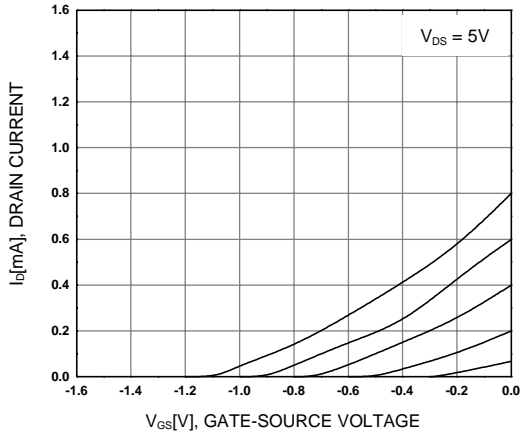


Figure 3. I_D - V_{GS}

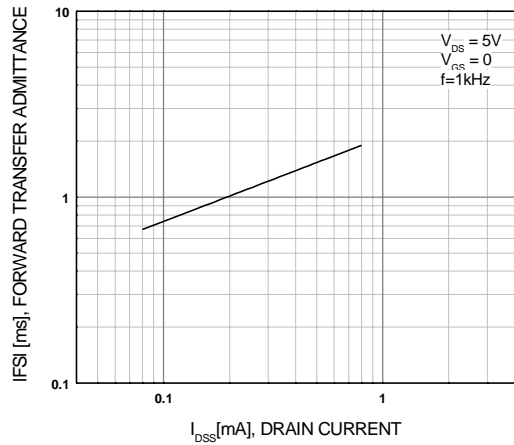


Figure 4. $|y_{FS}|$ - I_{DSS}

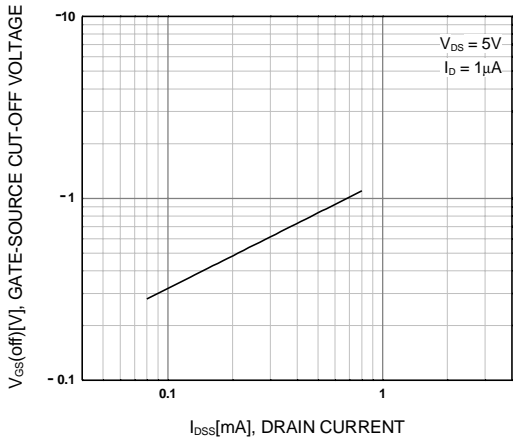


Figure 5. $V_{GS(off)}$ - I_{DSS}

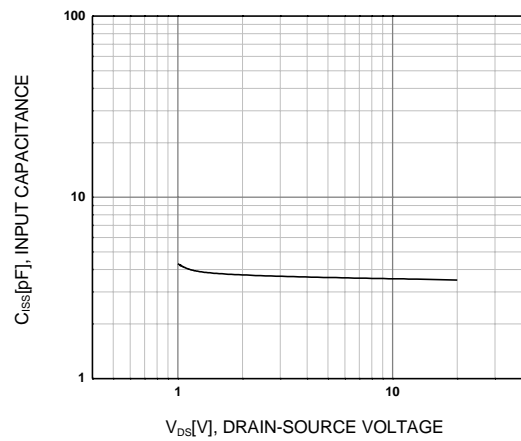
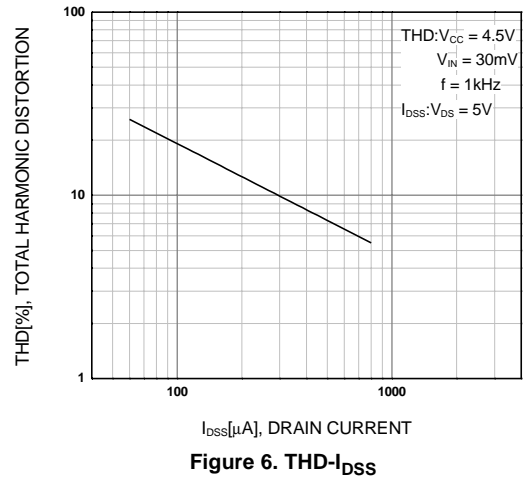
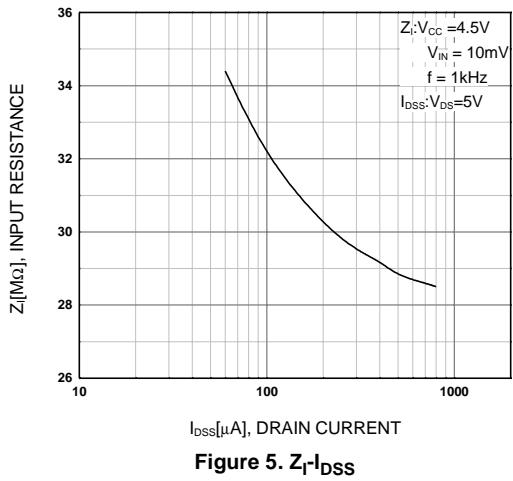
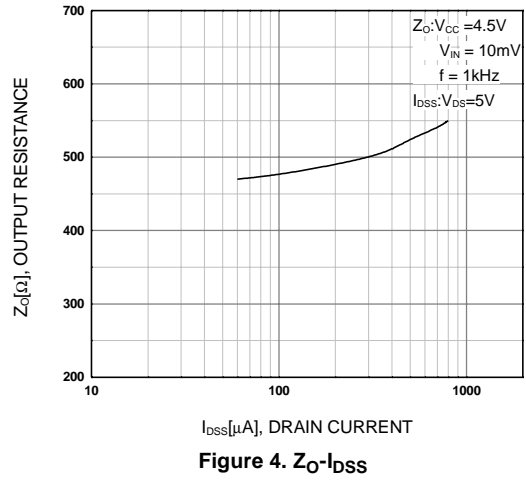
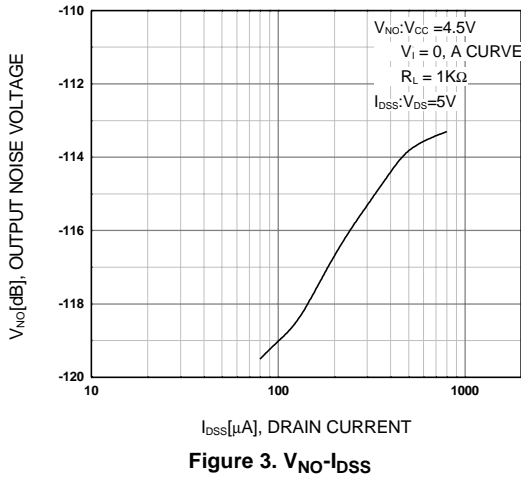
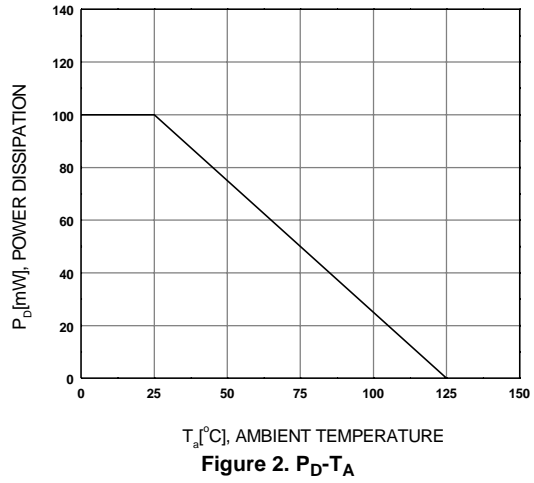
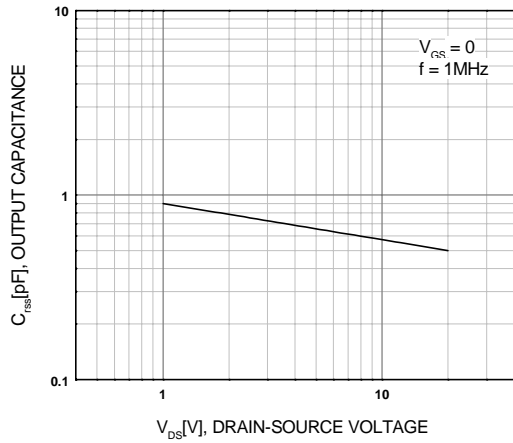


Figure 6. C_{ISS} - V_{DS}

Typical Characteristics (Continued)



Typical Characteristics (Continued)

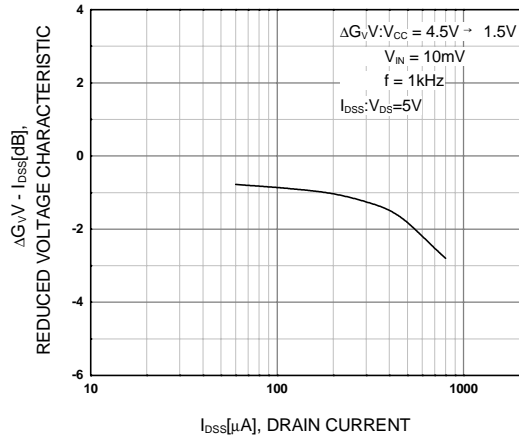


Figure 13. $\Delta G_V - I_{DSS}$

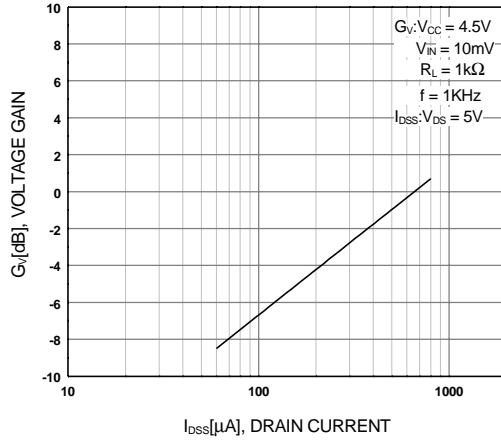


Figure 14. $G_V - I_{DSS}$

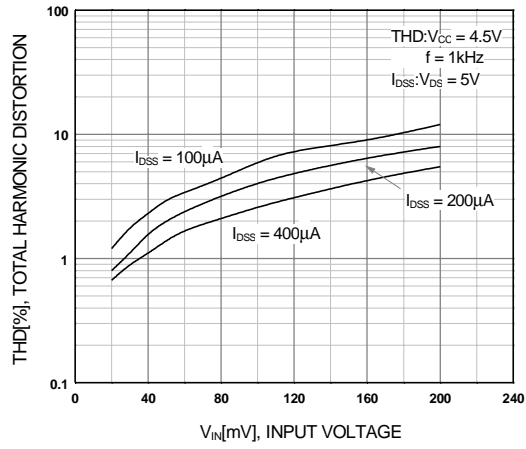
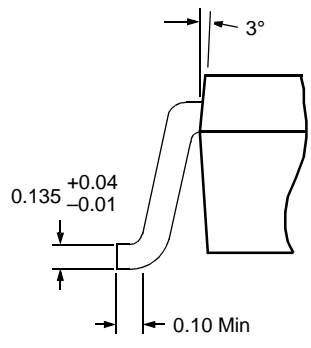
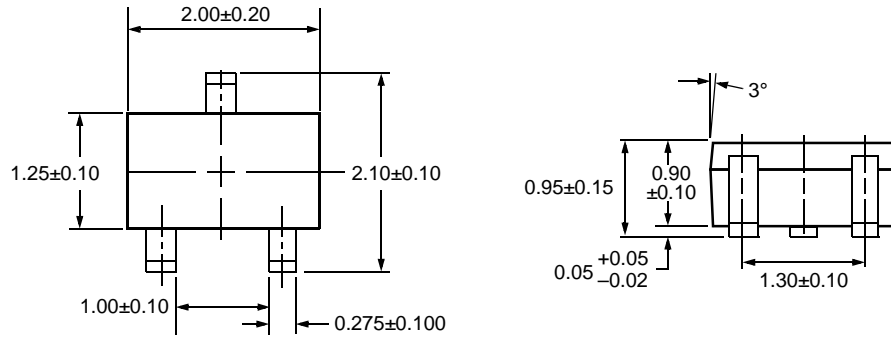


Figure 15. THD - V_{IN}

Package Dimensions

SOT-323



Dimensions in Millimeters

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