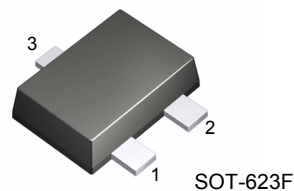


# FJZ594J

## Capacitor Microphone Applications

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



1. Drain 2. Source 3. Gate

## 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	$V_{DS}=5\text{V}, V_{GS}=0$	150		350	$\mu\text{A}$
$ 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

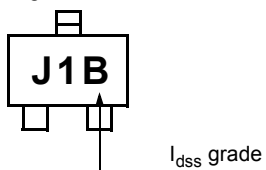
### Thermal Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	1250	$^\circ\text{C/W}$

## $I_{DSS}$ Classification

Classification	B	C
$I_{DSS} (\mu\text{A})$	150 ~ 240	210 ~ 350

Marking



# Typical Characteristics

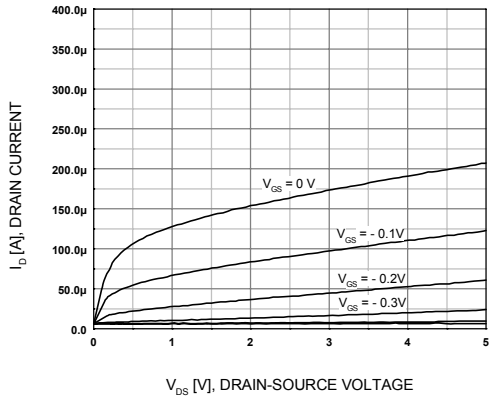


Figure 1. Static Characteristics

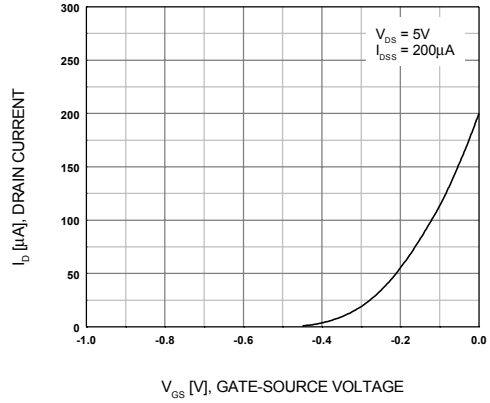


Figure 2. Transfer Characteristic

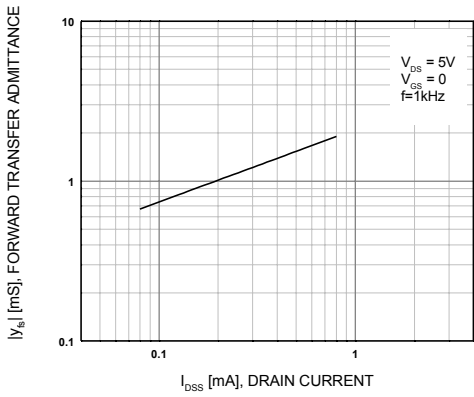


Figure 3. Forward Transfer Admittance

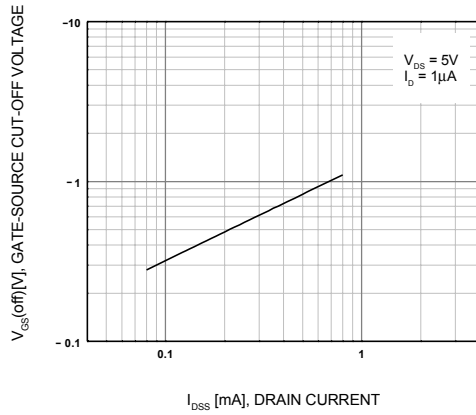


Figure 4. Cut-Off Voltage

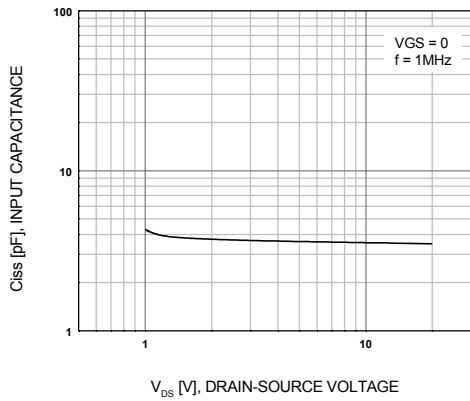


Figure 5. Input Capacitance

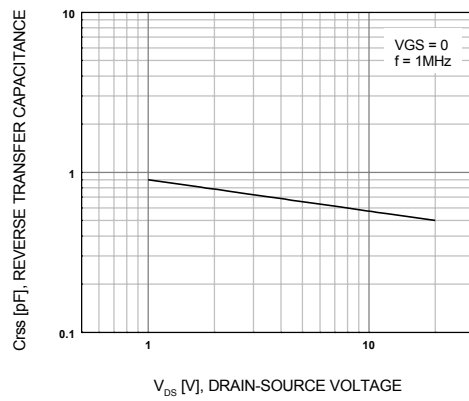


Figure 6. Reverse Transfer Capacitance

### Typical Characteristics (Continued)

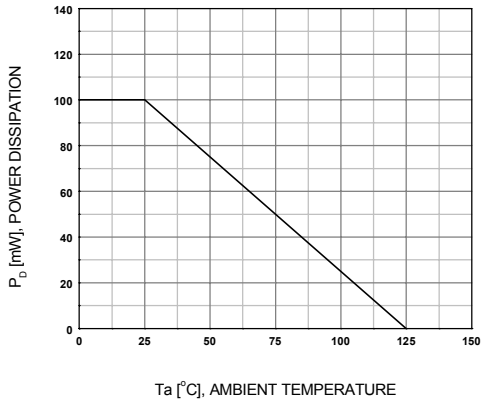
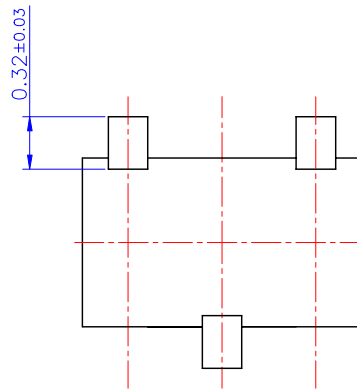
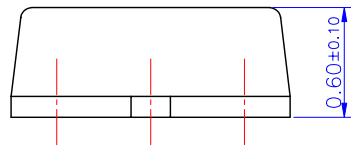
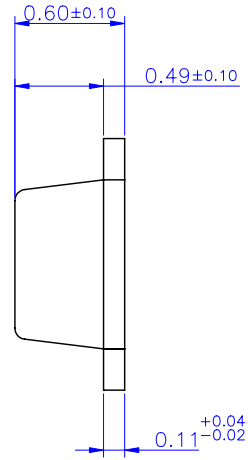
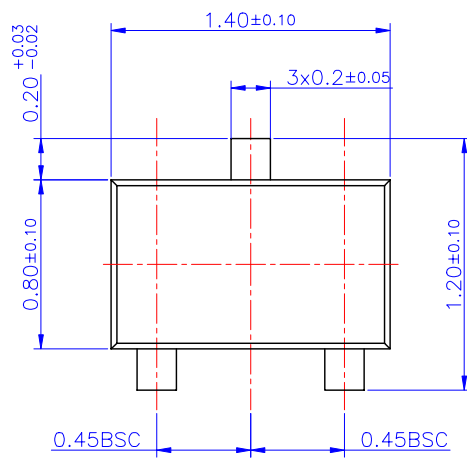


Figure 7. Power Derating

# Package Dimensions

## SOT-623F



Dimensions in Millimeters

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CoolFET <sup>™</sup>	FAST <sup>r</sup> <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
CROSSVOLT <sup>™</sup>	FRFET <sup>™</sup>	MicroPak <sup>™</sup>	QFET <sup>®</sup>	SuperSOT <sup>™</sup> -8
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