

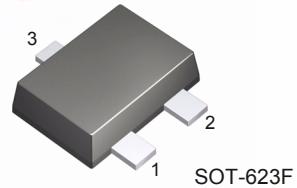
FJZ594J

FAIRCHILD
SEMICONDUCTOR®

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	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

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

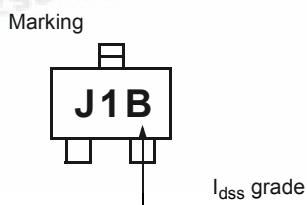
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GDO}	Gate-Drain Breakdown Voltage	$I_G= -100\mu\text{A}$	-20			V
$V_{GS(\text{off})}$	Gate-Source Cut-off Voltage	$V_{DS}=5\text{V}$, $I_D=1\mu\text{A}$		-0.6	-1.5	V
I_{DSS}	Drain Current	$V_{DS}=5\text{V}$, $V_{GS}=0$	150		350	μA
$I_{y_{fS}}$	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	°C/W

I_{DSS} Classification

Classification	B	C
I_{DSS} (μA)	150 ~ 240	210 ~ 350



Typical Characteristics

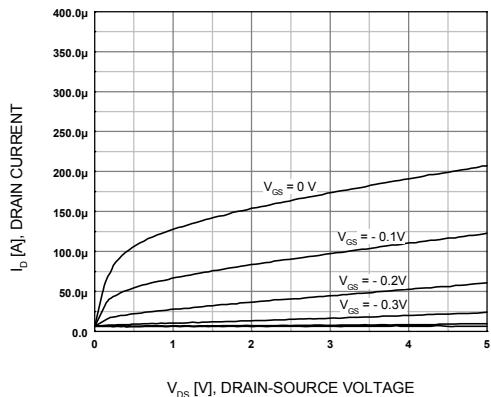


Figure 1. Static Characteristics

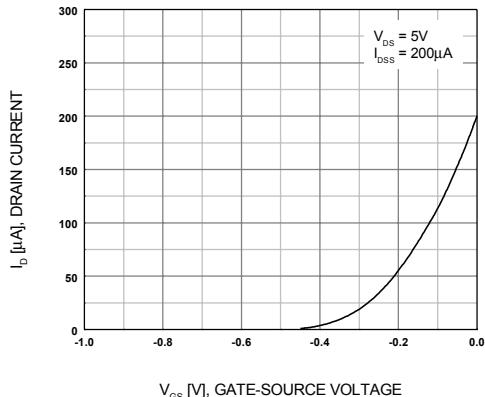


Figure 2. Transfer Characteristic

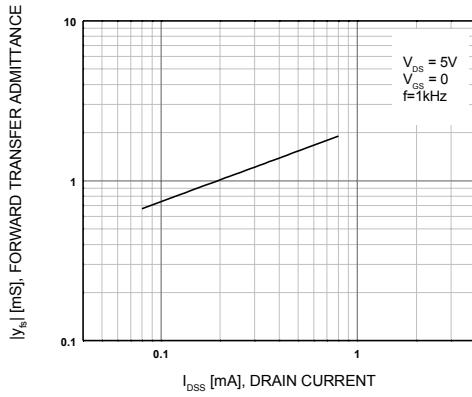


Figure 3. Forward Transfer Admittance

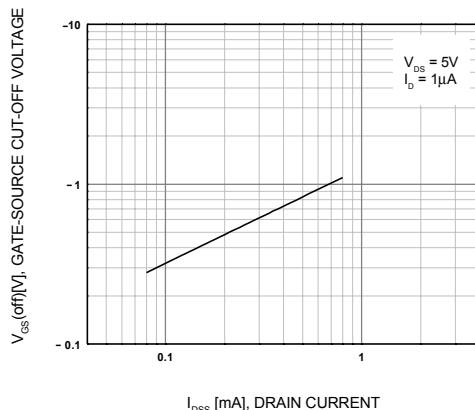


Figure 4. Cut-Off Voltage

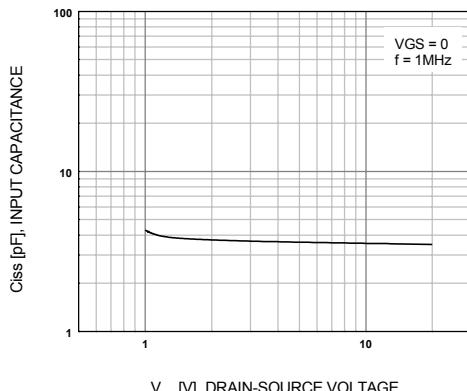


Figure 5. Input Capacitance

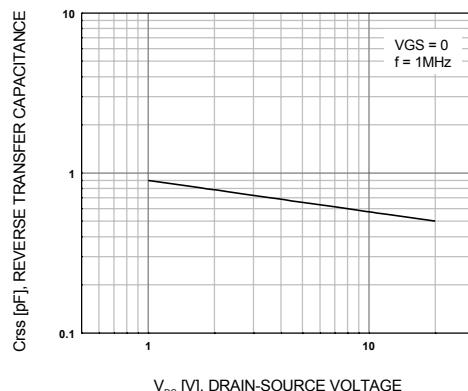


Figure 6. Reverse Transfer Capacitance

Typical Characteristics (Continued)

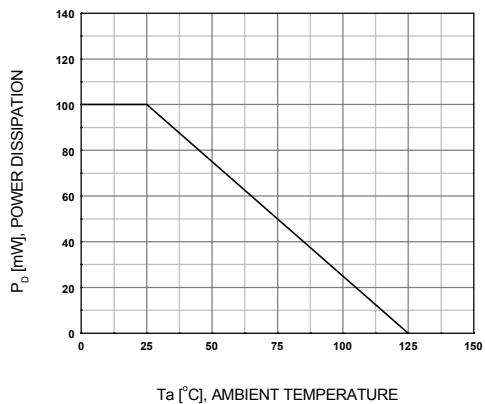
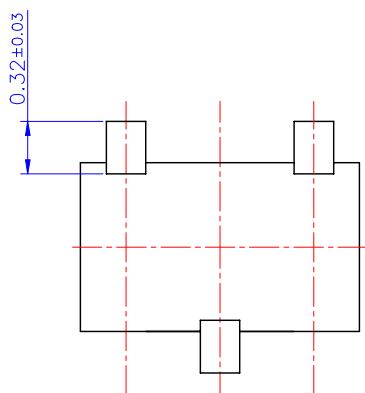
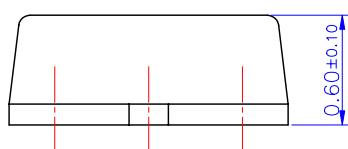
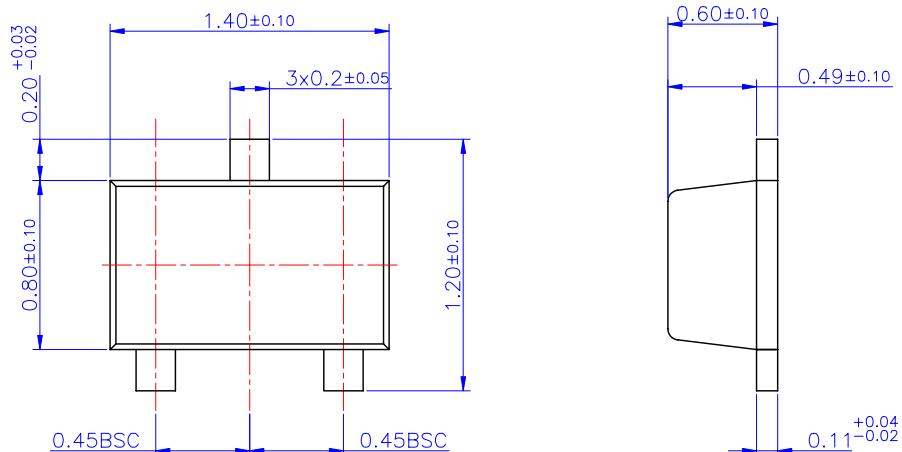


Figure 7. Power Derating

Package Dimensions

SOT-623F



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET®	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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