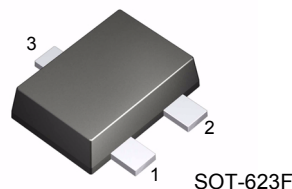


## FJZ945

### Audio Frequency Amplifier & High Frequency OSC.

- Complement to FJZ733
- Collector-Base Voltage :  $V_{CBO}=60V$
- High Current Gain Bandwidth Product :  $f_T=300MHz$  (Typ.)



1. Base 2. Emitter 3. Collector

### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	150	mA
$P_C$	Collector Power Dissipation	100	mW
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

#### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

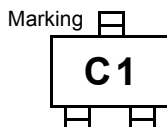
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	60			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	50			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=40V, I_E=0$			0.1	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE}=6V, I_C=1.0mA$	40		700	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100mA, I_B=10mA$		0.15	0.3	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=6V, I_C=10mA$		300		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=6V, I_E=0, f=1MHz$		2.5		pF
NF	Noise Figure	$V_{CE}=6V, I_C=0.5mA, f=1KHz, R_S=500\Omega$		4.0		dB

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

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

### $h_{FE}$ Classification & Marking

Classification	R	O	Y	G	L
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240	200 ~ 400	350 ~ 700
Marking	C2	C3	C1	C4	C5



# Typical Characteristics

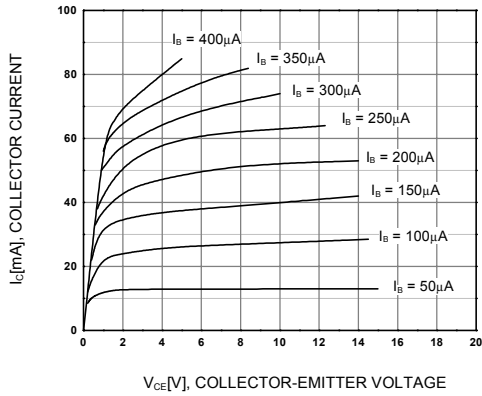


Figure 1. Static Characteristic

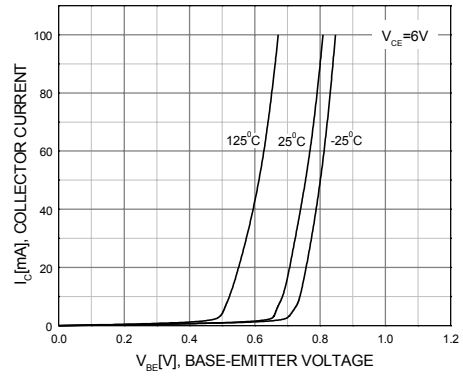


Figure 2. Transfer Characteristic

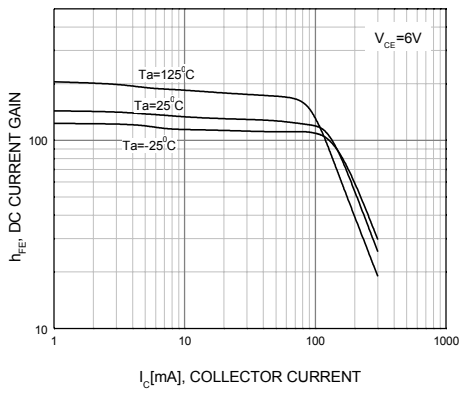


Figure 3. DC Current Gain

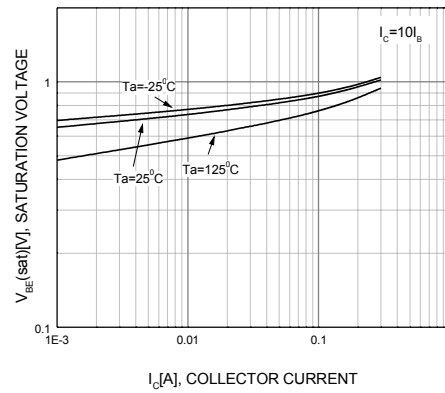


Figure 4. Base-Emitter Saturation Voltage

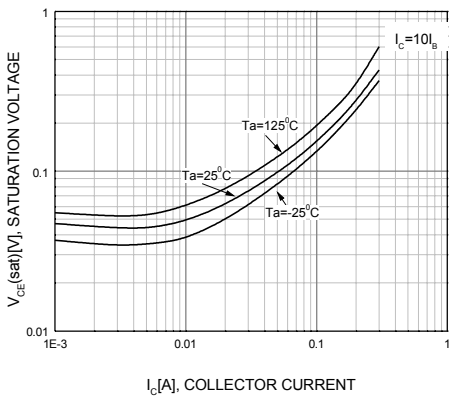


Figure 5. Collector-Emitter Saturation Voltage

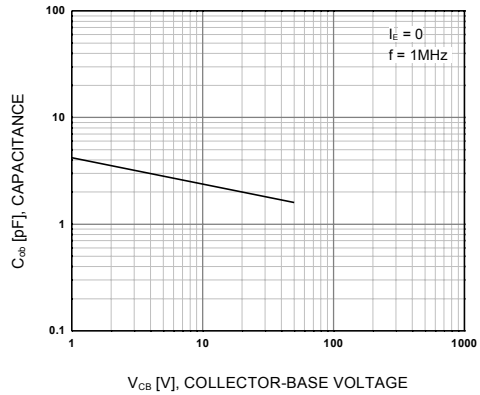


Figure 6. Output Capacitance

### Typical Characteristics (Continued)

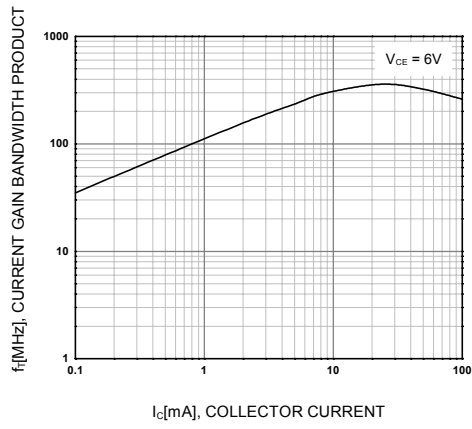
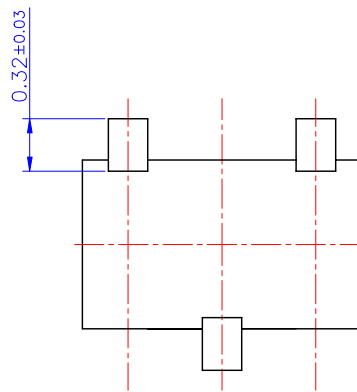
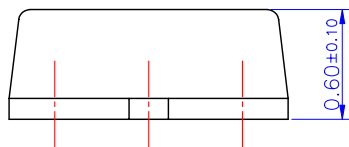
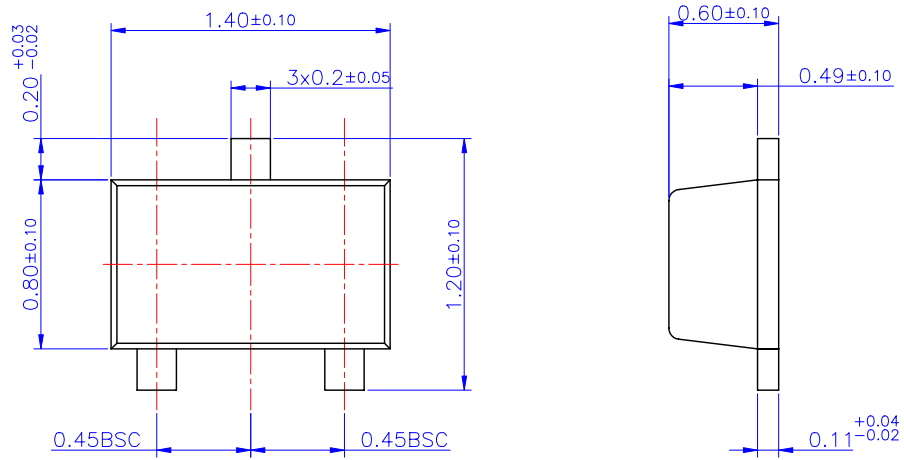


Figure 7. Current Gain Bandwidth Product

# Package Dimensions

## SOT-623F



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FAST <sup>r</sup> ™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET®	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
E <sup>2</sup> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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