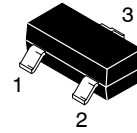


PNP Epitaxial Silicon Transistor

FJV992



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

SOT-23 (TO-236)
CASE 318
STYLE 6

Audio Frequency Low Noise Amplifier

- Complement to FJV1845

MAXIMUM RATINGS (T_a = 25°C unless otherwise noted)

Symbol	Rating	Value	Unit
V _{CB0}	Collector-Base Voltage	-120	V
V _{CEO}	Collector-Emitter Voltage	-120	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-50	mA
P _C	Collector Power Dissipation	300	mW
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55 ~ 150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

h_{FE2} CLASSIFICATION

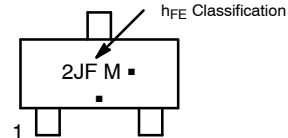
Classification	P	F	E
h _{FE2}	200 ~ 400	300 ~ 600	400 ~ 800

ELECTRICAL CHARACTERISTICS (T_a = 25°C unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
BV _{CB0}	Collector-Base Breakdown Voltage	I _C = -100 μA, I _E = 0	-120	-	-	V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = -1 mA, I _B = 0	-120	-	-	V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = -10 μA, I _C = 0	-5	-	-	V
I _{EBO}	Emitter-Base Cutoff Current	V _{EB} = -6 V, I _C = 0	-	-	-30	nA
h _{FE1}	DC Current Gain	V _{CE} = -6 V, I _C = -0.1 mA	150	-	-	
h _{FE2}		V _{CE} = -6 V, I _C = -1 mA	200	-	800	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -10 mA, I _B = -1 mA	-	-	-300	mV
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} = -6 V, I _C = -1 mA	-0.55	-	-0.65	V
f _T	Current Gain Bandwidth Product	V _{CE} = -6 V, I _C = -1 mA	50	-	-	MHz
C _{ob}	Output Capacitance	V _{CB} = -30 V, I _E = 0, f = 1 MHz	-	-	3	pF
NV	Noise Voltage	V _{CE} = -5.0 V, I _C = -1.0 mA, R _G = 100 kΩ, G _V = 80 dB, f = 10 Hz to 1.0 kHz	-	-	40	mV

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

MARKING DIAGRAM



- 2JF = Specific Device Code
- M = Assembly Operation Month
- = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
FJV992FMTF	SOT-23 (TO-236) (Pb-Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, [BRD8011/D](#).

TYPICAL CHARACTERISTICS

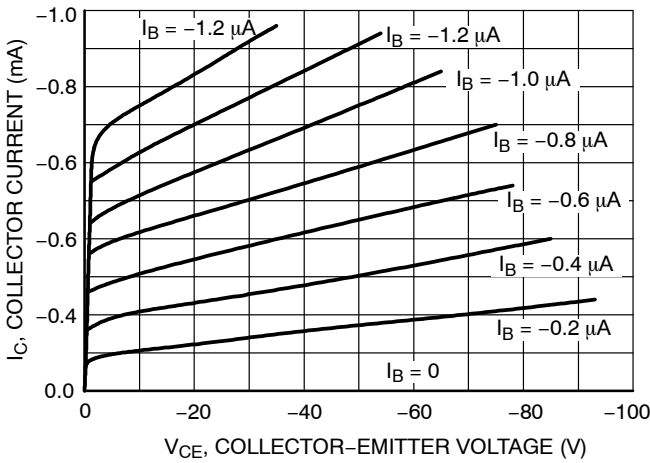


Figure 1. Static Characteristic

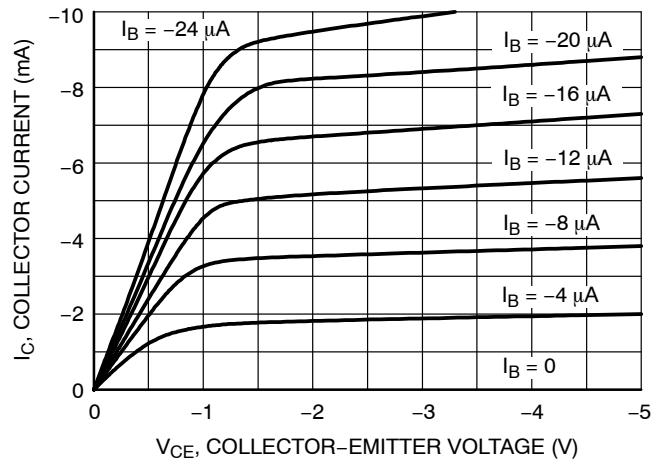


Figure 2. Static Characteristic

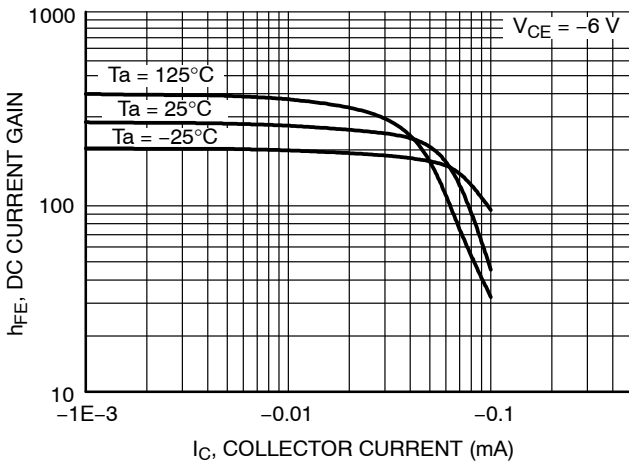


Figure 3. DC Current Gain

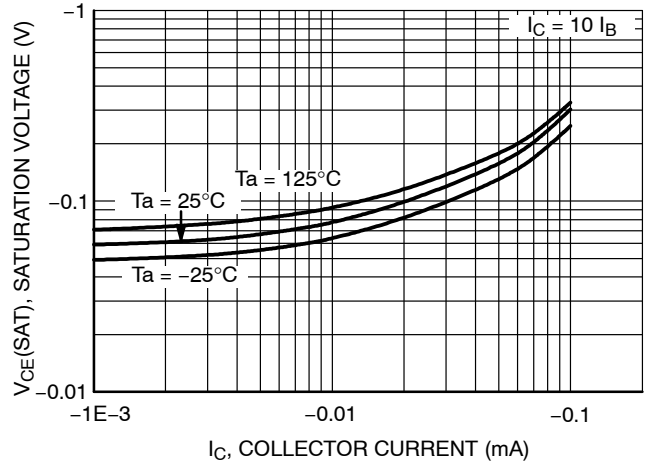


Figure 4. Collector-Emitter Saturation Voltage

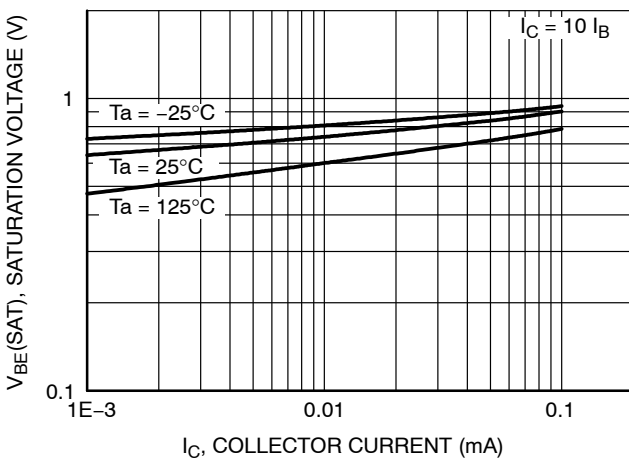


Figure 5. Base-Emitter Saturation Voltage

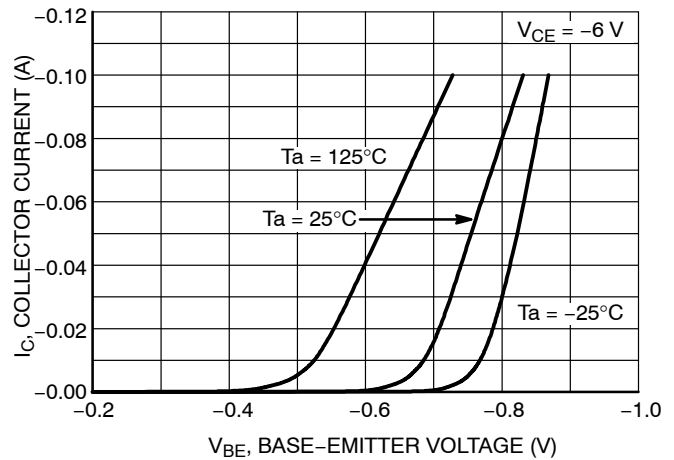


Figure 6. Base-Emitter Voltage

TYPICAL CHARACTERISTICS (continued)

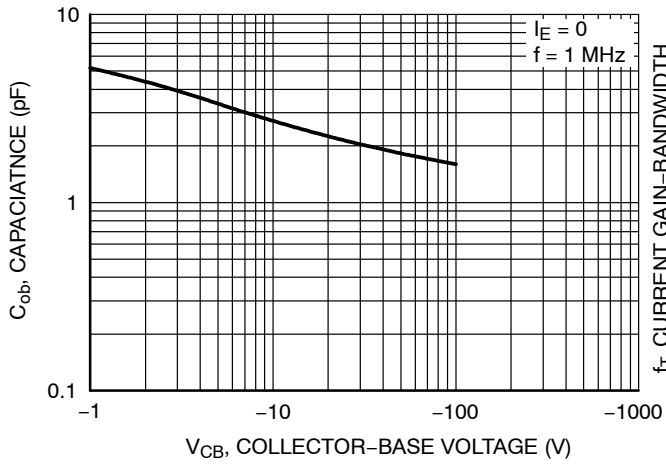


Figure 7. Collector Output Capacitance

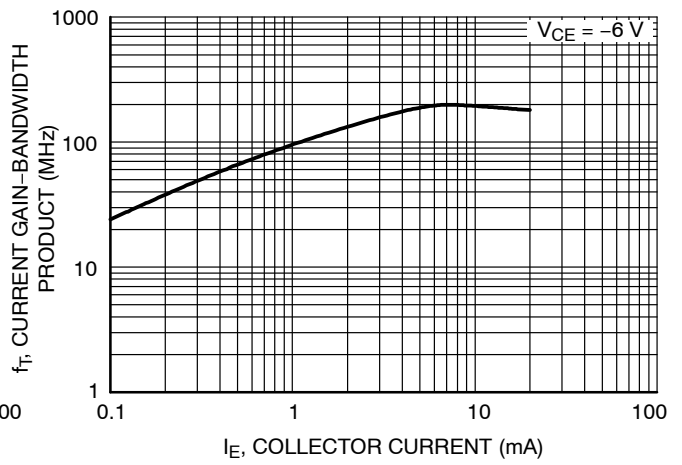


Figure 8. Current Gain Bandwidth Product

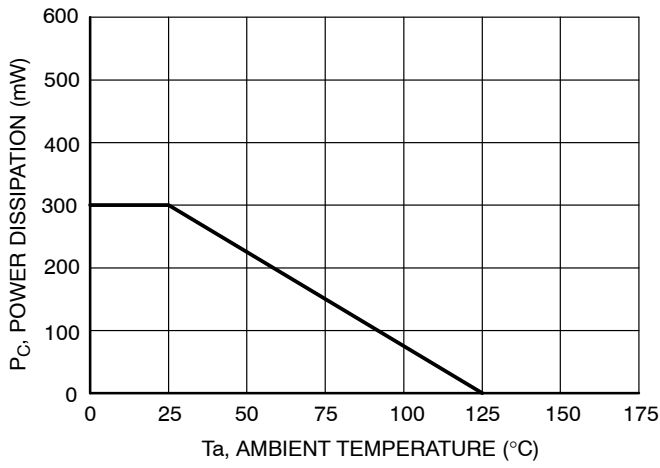


Figure 9. Power Derating

MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS



SOT-23 (TO-236)
CASE 318
ISSUE AT

DATE 01 MAR 2023

SCALE 4:1



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M,1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF THE BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.89	1.00	1.11	0.035	0.039	0.044
A1	0.01	0.06	0.10	0.000	0.002	0.004
b	0.37	0.44	0.50	0.015	0.017	0.020
c	0.08	0.14	0.20	0.003	0.006	0.008
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.080
L	0.30	0.43	0.55	0.012	0.017	0.022
L1	0.35	0.54	0.69	0.014	0.021	0.027
H _E	2.10	2.40	2.64	0.083	0.094	0.104
T	0°	---	10°	0°	---	10°

GENERIC MARKING DIAGRAM*



- XXX = Specific Device Code
- M = Date Code
- = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.



RECOMMENDED MOUNTING FOOTPRINT

* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

STYLES ON PAGE 2

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MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS



SOT-23 (TO-236)
CASE 318
ISSUE AT

DATE 01 MAR 2023

- | | | | | | |
|---|---|---|---|---|---|
| STYLE 1 THRU 5:
CANCELLED | STYLE 6:
PIN 1. BASE
2. EMITTER
3. COLLECTOR | STYLE 7:
PIN 1. EMITTER
2. BASE
3. COLLECTOR | STYLE 8:
PIN 1. ANODE
2. NO CONNECTION
3. CATHODE | | |
| STYLE 9:
PIN 1. ANODE
2. ANODE
3. CATHODE | STYLE 10:
PIN 1. DRAIN
2. SOURCE
3. GATE | STYLE 11:
PIN 1. ANODE
2. CATHODE
3. CATHODE-ANODE | STYLE 12:
PIN 1. CATHODE
2. CATHODE
3. ANODE | STYLE 13:
PIN 1. SOURCE
2. DRAIN
3. GATE | STYLE 14:
PIN 1. CATHODE
2. GATE
3. ANODE |
| STYLE 15:
PIN 1. GATE
2. CATHODE
3. ANODE | STYLE 16:
PIN 1. ANODE
2. CATHODE
3. CATHODE | STYLE 17:
PIN 1. NO CONNECTION
2. ANODE
3. CATHODE | STYLE 18:
PIN 1. NO CONNECTION
2. CATHODE
3. ANODE | STYLE 19:
PIN 1. CATHODE
2. ANODE
3. CATHODE-ANODE | STYLE 20:
PIN 1. CATHODE
2. ANODE
3. GATE |
| STYLE 21:
PIN 1. GATE
2. SOURCE
3. DRAIN | STYLE 22:
PIN 1. RETURN
2. OUTPUT
3. INPUT | STYLE 23:
PIN 1. ANODE
2. ANODE
3. CATHODE | STYLE 24:
PIN 1. GATE
2. DRAIN
3. SOURCE | STYLE 25:
PIN 1. ANODE
2. CATHODE
3. GATE | STYLE 26:
PIN 1. CATHODE
2. ANODE
3. NO CONNECTION |
| STYLE 27:
PIN 1. CATHODE
2. CATHODE
3. CATHODE | STYLE 28:
PIN 1. ANODE
2. ANODE
3. ANODE | | | | |

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