



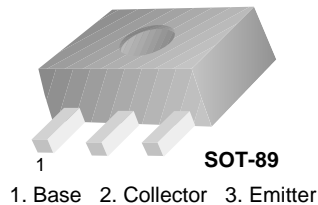
June 2009

# FJC1963

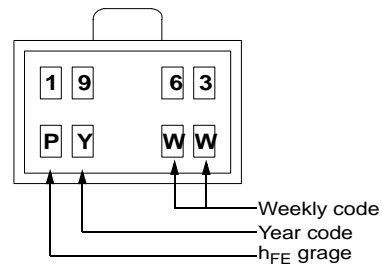
## NPN Epitaxial Silicon Transistor

### Features

- Audio Power Amplifier Applications
- Complement to FJC1308
- High Collector Current
- Low Collector-Emitter Saturation Voltage



Marking



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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current (DC)	3	A
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 to + 150	$^\circ\text{C}$

### Thermal Characteristics

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation ( $T_A=25^\circ\text{C}$ )	0.5	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	250	$^\circ\text{C/W}$

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

Symbol	Parameter	Test conditions	Min.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 50\mu\text{A}$ , $I_E = 0$	50		V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}$ , $I_B = 0$	30		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 50\mu\text{A}$ , $I_C = 0$	6		V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 40\text{V}$ , $V_B = 0$		0.5	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}$ , $I_C = 0$		0.5	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 2\text{V}$ , $I_C = 0.5\text{A}$	120	560	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1.5\text{A}$ , $I_B = 0.15\text{A}$		0.45	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1.5\text{A}$ , $I_B = 0.15\text{A}$		1.2	V

 **$h_{FE}$  Classification**

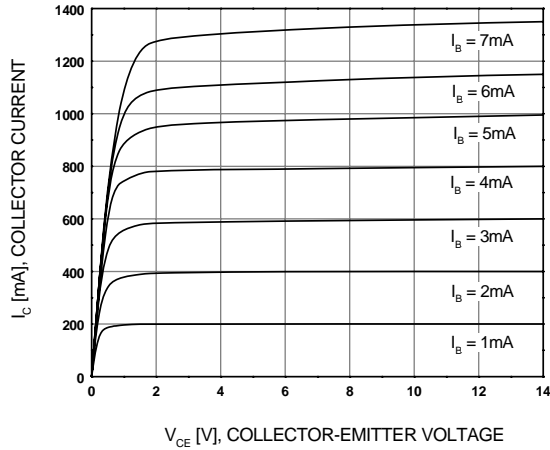
Classification	Q	R	S
$h_{FE}$	120 ~ 270	180 ~ 390	280 ~ 560

**Package Marking and Ordering Information**

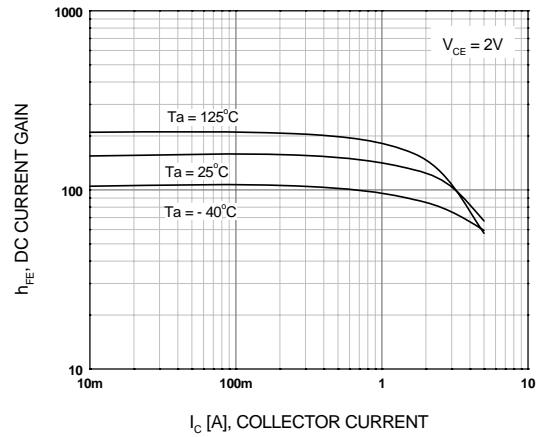
Device Marking	Device	Package	Reel Size	Tape Width	Quantity
1963	FJC1963	SOT-89	13"	--	4,000

## Typical Performance Characteristics

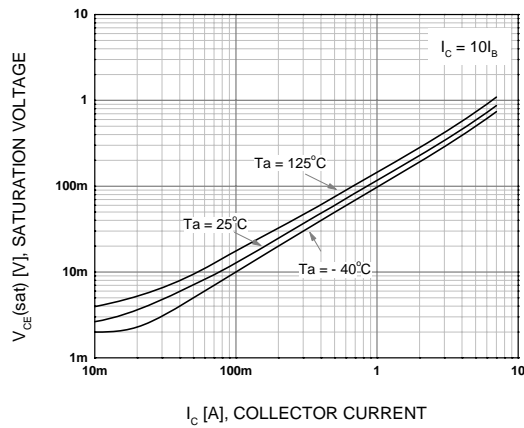
**Figure 1. Static Characteristic**



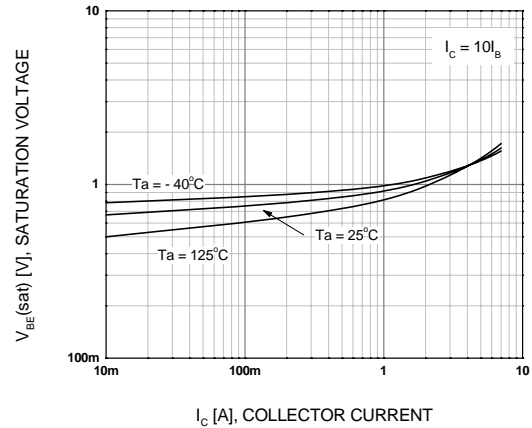
**Figure 2. DC Current Gain**



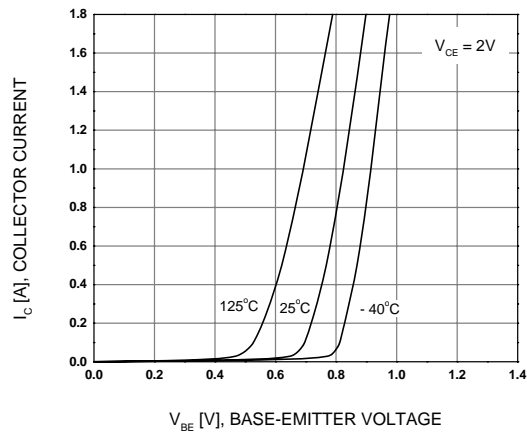
**Figure 3. Collector-Emitter Saturation Voltage**



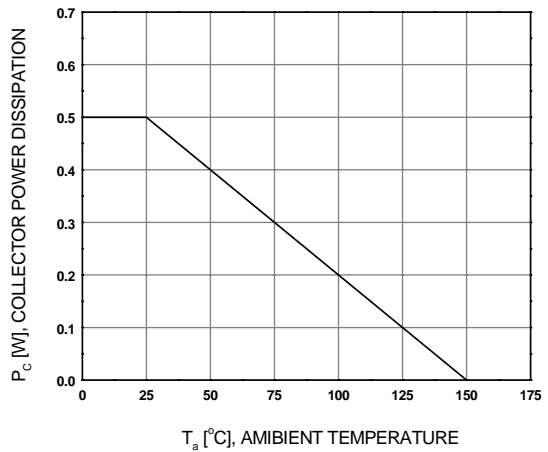
**Figure 4. Base-Emitter Saturation Voltage**



**Figure 5. Base-Emitter On Voltage**

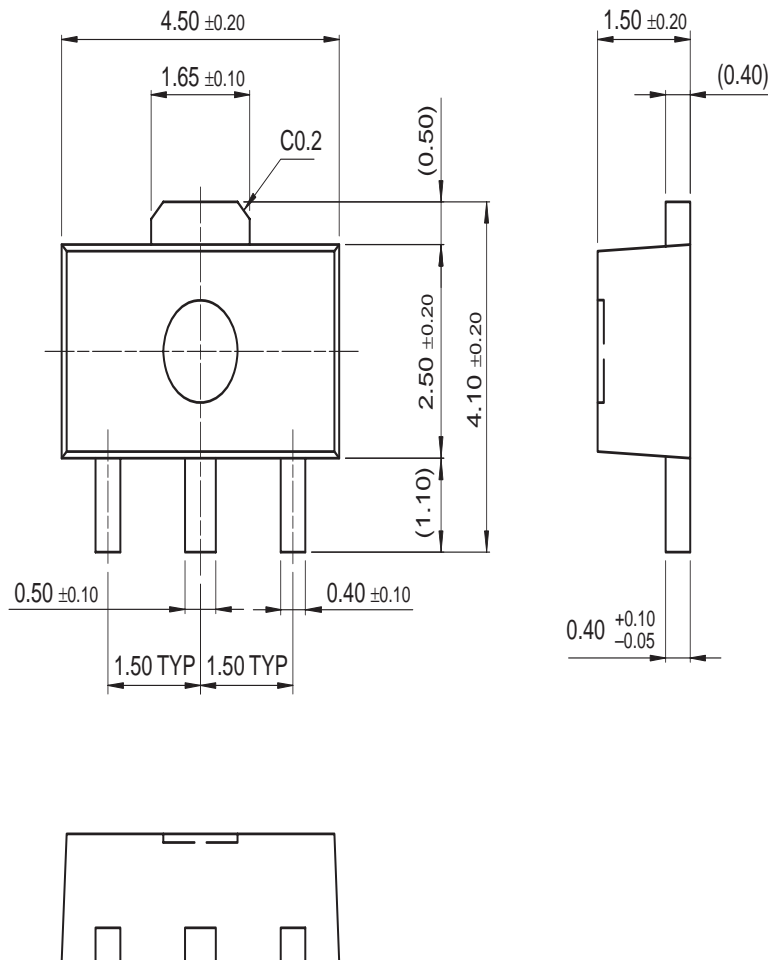


**Figure 6. Power Derating**



# Physical Dimensions

## SOT-89


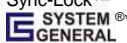


Dimensions in Millimeters



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Rev. 140