

## Silicon Epitaxial Planar Transistor

## 2SC1654

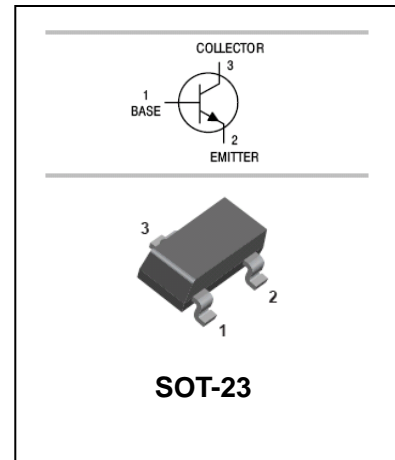
### FEATURES

- High DC current gain:  $h_{FE}=130$ (Typ)  
( $V_{CE}=3V, I_C=15mA$ ).
- High voltage.



### APPLICATIONS

- Audio frequency general purpose amplifier applications.



### ORDERING INFORMATION

Type No.	Marking	Package Code
2SC1654□	N5/N6/N7	SOT-23

□: none is for Lead Free package;

“G” is for Halogen Free package.

### MAXIMUM RATING @ $T_a=25^{\circ}C$ unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	50	mA
$P_t$	Total Power Dissipation	150	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +125	$^{\circ}C$

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ELECTRICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=130\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=3\text{V}, I_C=15\text{mA}$ $V_{CE}=3\text{V}, I_C=1\text{mA}$	90 70	200 180	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.1	0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.73	1	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_E=-10\text{mA}$		120		MHz
Output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2.3		pF

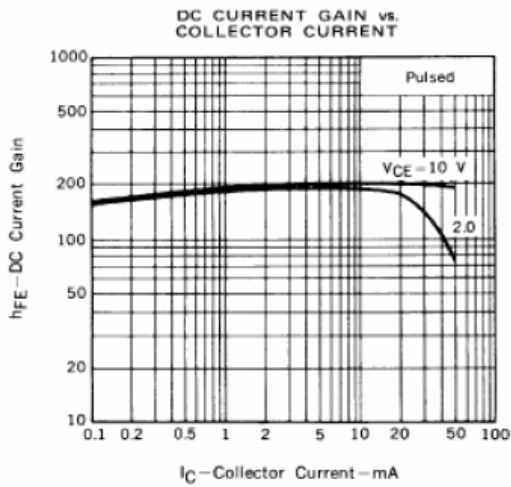
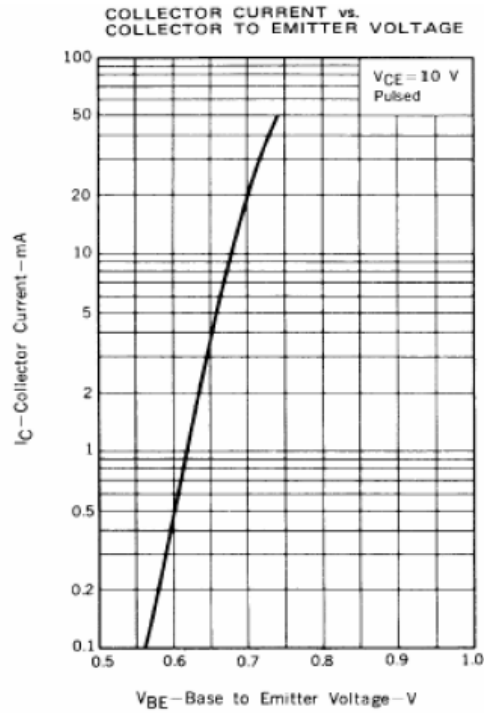
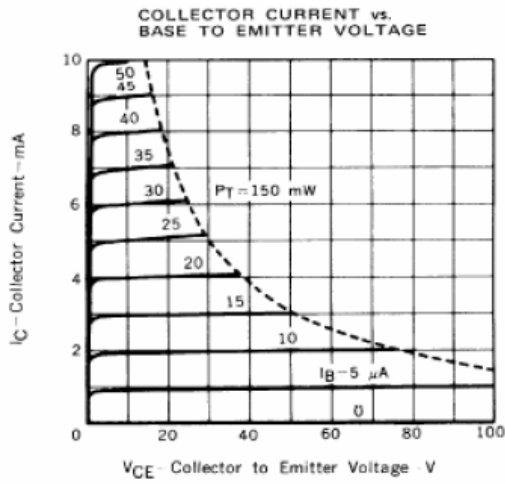
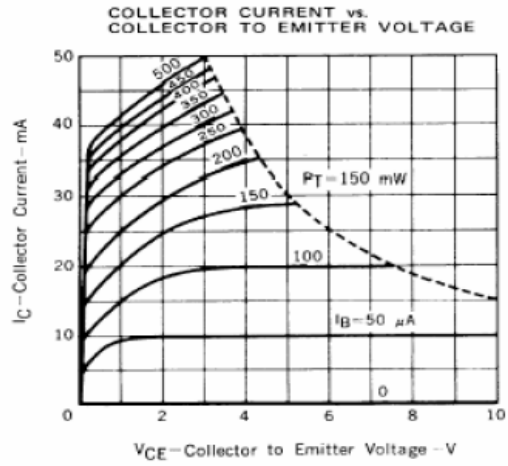
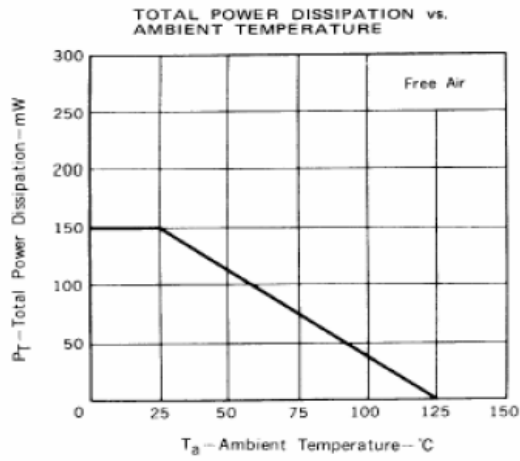
CLASSIFICATION OF  $h_{FE(1)}$

Range	90-180	135-270	200-400
Marking	N5	N6	N7

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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



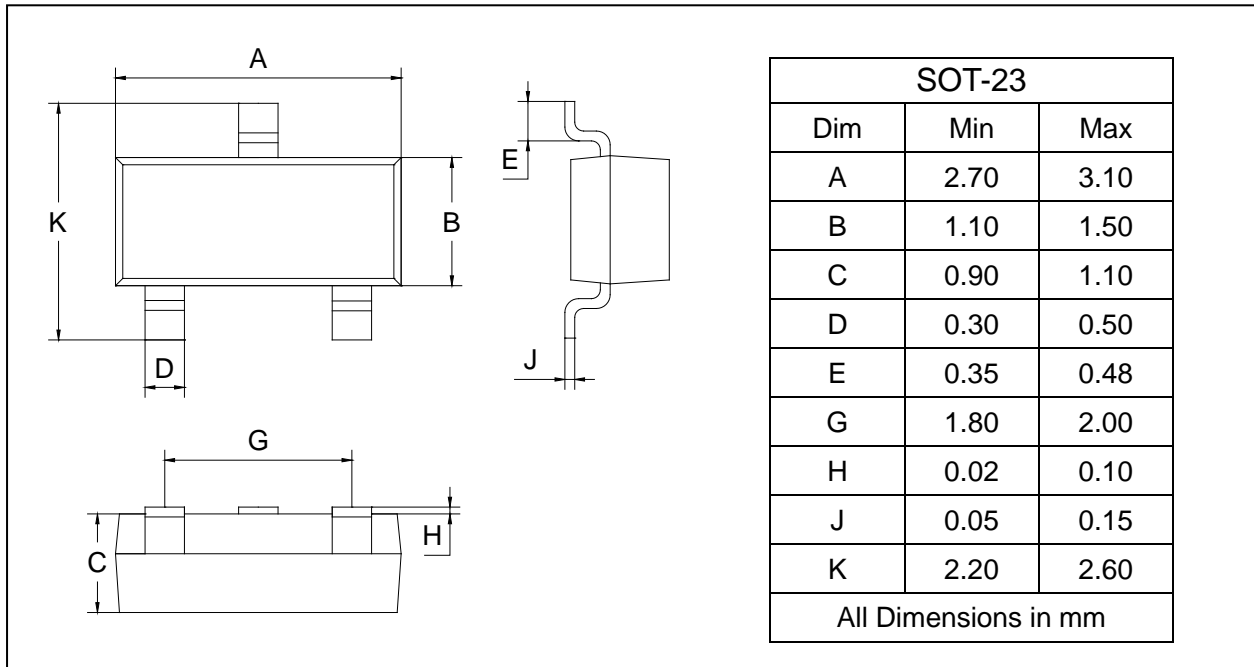
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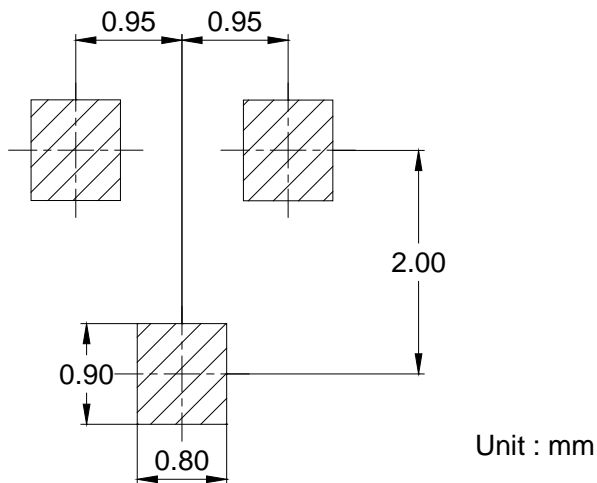
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
2SC1654	SOT-23	3000/Tape&Reel