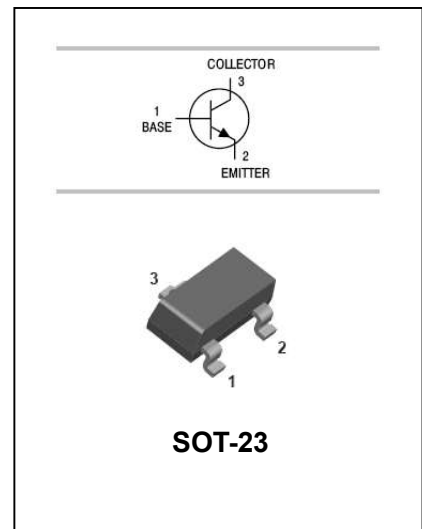


## Silicon Epitaxial Planar Transistor

## 2SD1757

### FEATURES

- Low  $V_{CE(sat)}$ . (Typ. 8mV at  $I_C/I_B=10/1mA$ ).
- Optimal for muting.
- Power dissipation.  $P_D=200mW$ .



### APPLICATIONS

- Audio frequency general.

### ORDERING INFORMATION

Type No.	Marking	Package Code
2SD1757	AAQ/AAR/AAS	SOT-23

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	15	V
$V_{EBO}$	Emitter-Base Voltage	6.5	V
$I_C$	Collector Current -Continuous	500	mA
$P_C$	Collector Dissipation	200	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	$^{\circ}C$

Silicon Epitaxial Planar Transistor

**2SD1757**

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_C=50\mu A, I_C=0$	6.5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			0.5	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.5	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=3V, I_C=100mA$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		0.1	0.4	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=50mA$ $f=100MHz$		150		MHz
Output capacitance	$C_{ob}$	$V_{CB}=5V, I_E=0A, f=1MHz$		15		pF

CLASSIFICATION OF  $h_{FE(1)}$

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	AAQ	AAR	AAS

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

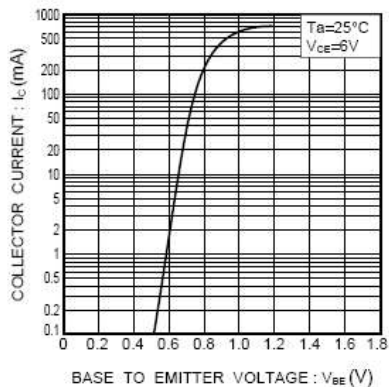


Fig.1 Ground emitter propagation characteristics

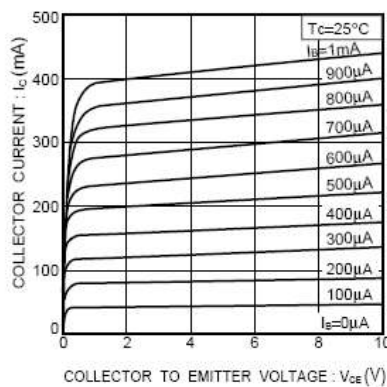


Fig.2 Ground emitter output characteristics

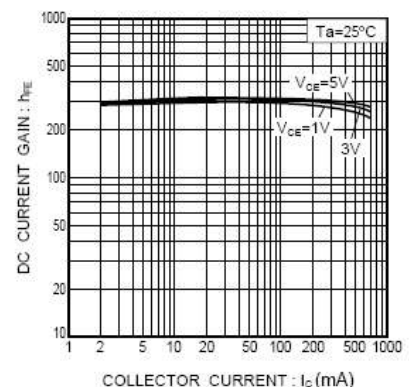


Fig.3 DC current gain vs. collector current (I)

Silicon Epitaxial Planar Transistor

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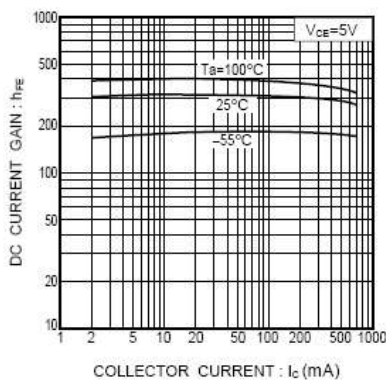


Fig.4 DC current gain vs. collector current(II)

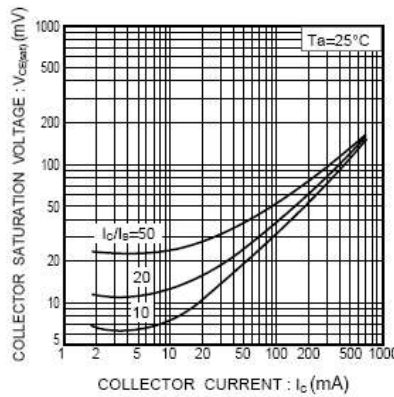


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

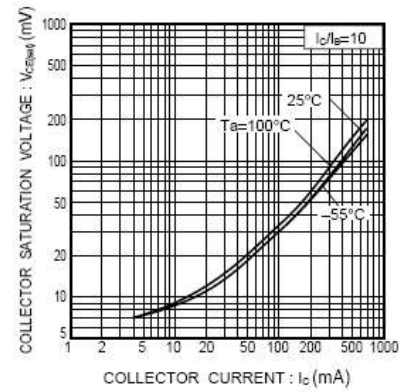


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

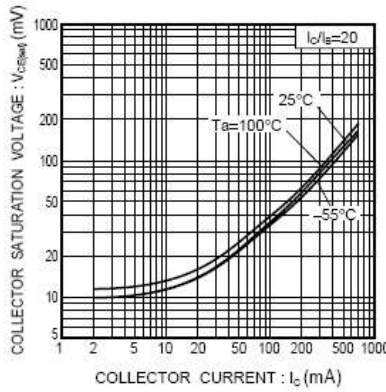


Fig.7 Collector-emitter saturation voltage vs. collector current (III)

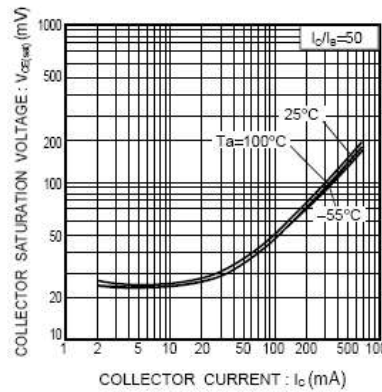


Fig.8 Collector-emitter saturation voltage vs. collector current (IV)

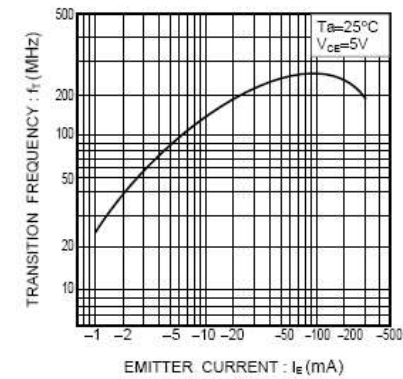


Fig.9 Gain bandwidth product vs. emitter current

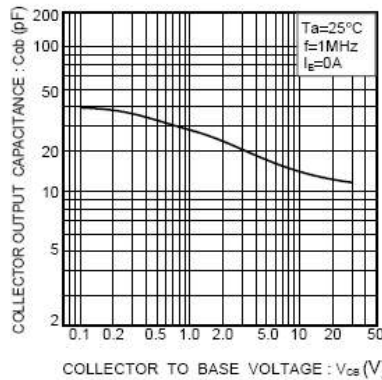


Fig.10 Collector output capacitance vs. collector-base voltage

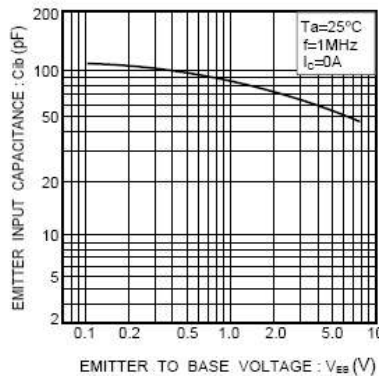


Fig.11 Emitter input capacitance vs. emitter-base voltage

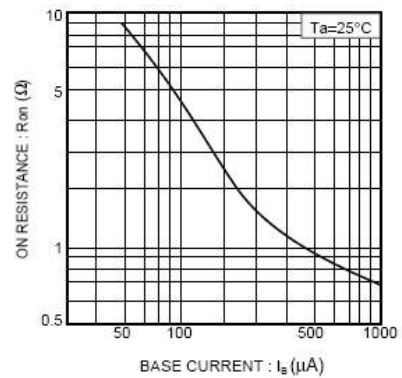


Fig.12 "ON" resistance vs. base current characteristics

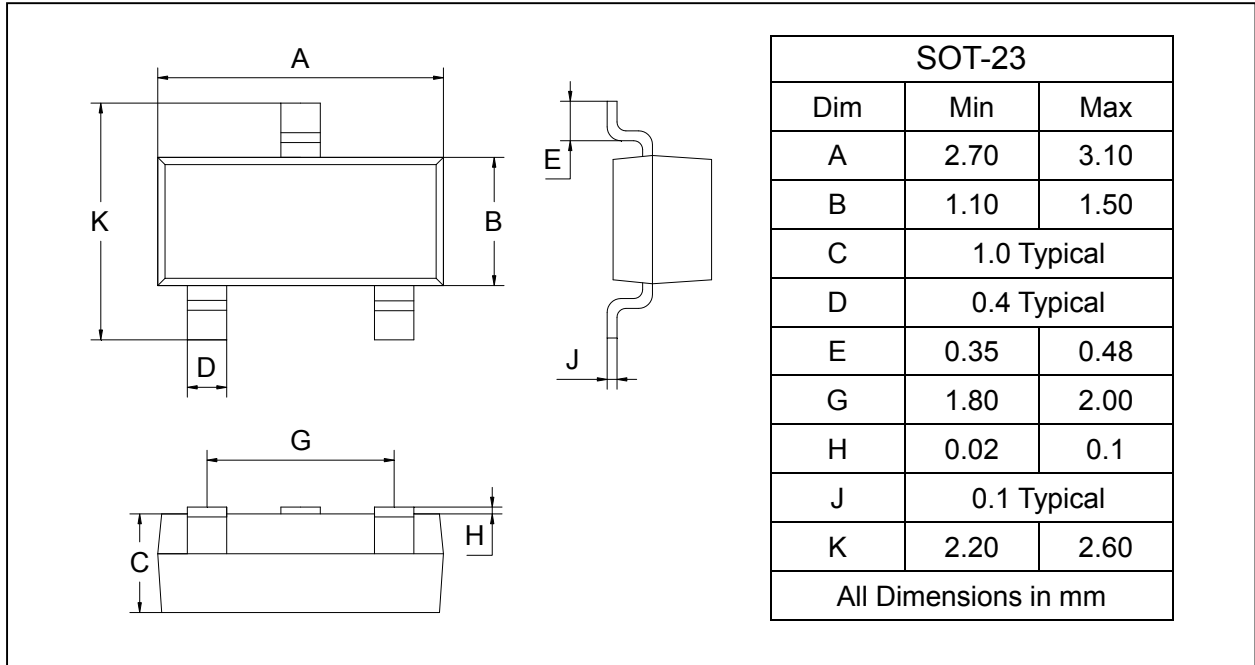
## Silicon Epitaxial Planar Transistor

## 2SD1757

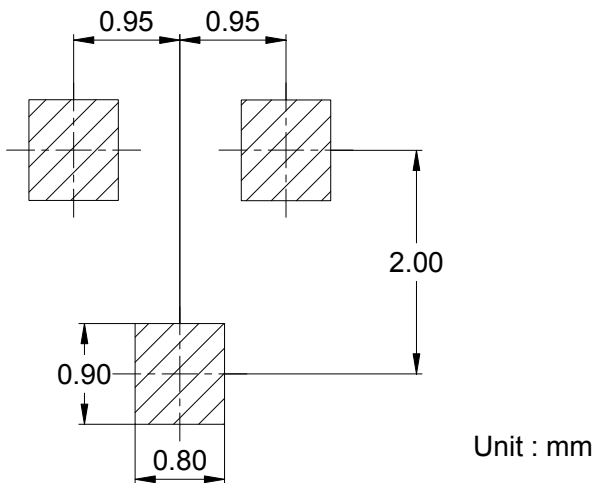
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
2SD1757	SOT-23	3000/Tape&Reel