

# SOT-23-3L Plastic-Encapsulate Transistors

## 2SC3356 TRANSISTOR (NPN)

### FEATURES

- Low noise amplifier at VHF, UHF and CATV band.
- Low Noise and High Gain
- High Power Gain

### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector- Base Voltage	20	V
$V_{CEO}$	Collector-Emitter Voltage	12	V
$V_{EBO}$	Emitter-Base Voltage	3	V
$I_C$	Collector Current -Continuous	0.1	A
$P_C$	Collector Power Dissipation	0.25	W
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

### SOT-23-3L



1. BASE
2. EMITTER
3. COLLECTOR

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C=10\mu\text{A}$ , $I_E=0$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$ , $I_B=0$	12			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=10\text{V}$ , $I_E=0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=1\text{V}$ , $I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE}^*$	$V_{CE}=10\text{V}$ , $I_C=20\text{mA}$	50		250	
Transition frequency	$f_T$	$V_{CE}=10\text{V}$ , $I_C=20\text{mA}$		7		GHz
Noise figure	NF	$V_{CE}=10\text{V}$ , $I_C=7\text{mA}$ , $f=1\text{GHz}$			2	dB

\* pulse test: pulse width $\leq 350\mu\text{s}$ , Duty cycle $\leq 2\%$

### CLASSIFICATION OF $h_{FE}$

Marking	R23	R24	R25
Rank	Q	R	S
Range	50-100	80-160	125-250