

# 2SC1501

## Silicon PNP Triple-Diffused Planar Type

### Medium Power Amplifier

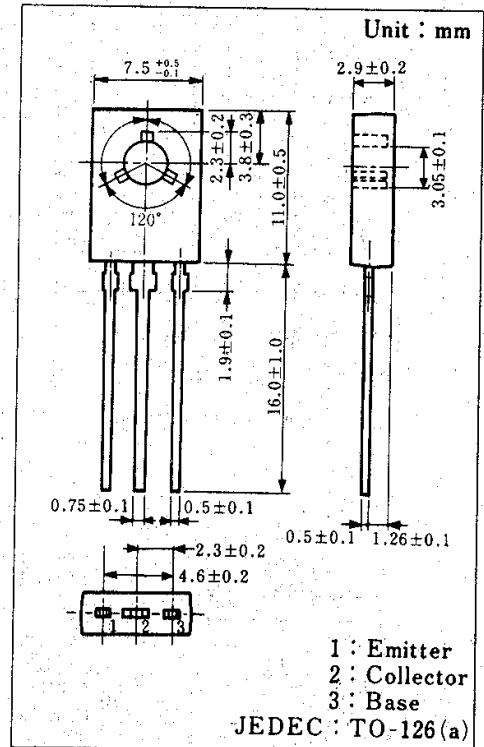
#### ■ Features

- High collector-emitter voltage (resistance between B and E) ( $V_{CER}$ )
- Large collector power dissipation ( $P_C$ )

#### ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	300	V
Collector-emitter voltage ( $R_{BE} \leq 3 \text{ k}\Omega$ )	$V_{CER}$	300	V
Emitter-base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	150	mA
Collector current	$I_C$	100	mA
Collector power dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	10	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

#### ■ Package Dimensions



#### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB}=300 \text{ V}, I_E=0$			100	$\mu\text{A}$
	$I_{CER}$	$V_{CE}=300 \text{ V}, R_{BE}=3 \text{ k}\Omega$			1	mA
Emitter-base voltage	$V_{EBO}$	$I_E=0.1 \text{ mA}, I_C=0$	5			V
DC current gain	$h_{FE1}$	$V_{CE}=10 \text{ V}, I_C=10 \text{ mA}$	30			
	$h_{FE2}^*$	$V_{CE}=10 \text{ V}, I_C=50 \text{ mA}$	30		200	
Base-emitter voltage	$V_{BE}$	$V_{CE}=10 \text{ V}, I_C=50 \text{ mA}$			1.2	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100 \text{ mA}, I_B=10 \text{ mA}$			5	V
Base resistance	$r_{bb}$	$V_{CB}=50 \text{ V}, I_C=20 \text{ mA}$		10		$\Omega$
Transition frequency	$f_T$	$V_{CB}=30 \text{ V}, I_E=-20 \text{ mA}, f=200 \text{ MHz}$		55		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=30 \text{ V}, I_E=0, f=1 \text{ MHz}$		8		pF

#### \* $h_{FE2}$ Classifications

Class	P	Q	R	S
$h_{FE2}$	30 ~ 60	50 ~ 100	80 ~ 150	100 ~ 200