

**DESCRIPTION** The 2SC2352 is an NPN silicon epitaxial transistor intended for use as a VHF mixer in a tuner of a TV receiver. The device features are high conversion gain and low distortion.

- FEATURES**
- Low  $C_{re}$  : 0.4 pF TYP.
  - High conversion gain. : 15 dB TYP.
  - Excellent  $h_{FE}$  linearity.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures

Storage Temperature . . . . . -55 to +125 °C

Junction Temperature . . . . . +125 °C Maximum

Maximum Power Dissipation ( $T_a = 25$  °C)

Total Power Dissipation . . . . . 250 mW

Maximum Voltages and Currents ( $T_a = 25$  °C)

$V_{CBO}$  Collector to Base Voltage . . . . . 30 V

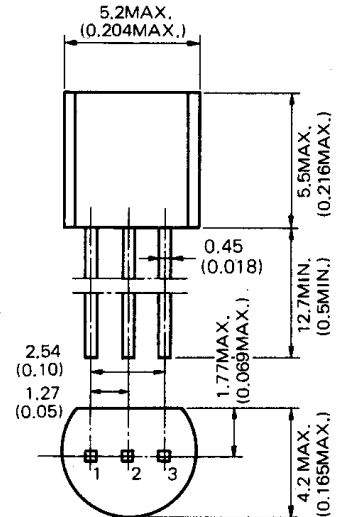
$V_{CEO}$  Collector to Emitter Voltage . . . . . 20 V

$V_{EBO}$  Emitter to Base Voltage . . . . . 4.0 V

$I_C$  Collector Current . . . . . 30 mA

$I_B$  Base Current. . . . . 10 mA

**PACKAGE DIMENSIONS**  
in millimeters (inches)



1. BASE                    EIAJ : SC-43A  
2. EMITTER                IEC : PA33  
3. COLLECTOR            JEDEC : TO-92

**ELECTRICAL CHARACTERISTICS ( $T_a = 25$  °C)**

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE}$	DC Current Gain	60	100	200		$V_{CE}=10$ V, $I_C=5.0$ mA
$f_T$	Gain Bandwidth Product	500	850		MHz	$V_{CE}=10$ V, $I_E=-5.0$ mA
$C_{re}$	Feed Back Capacitance		0.4	0.7	pF	$V_{CB}=10$ V, $I_E=0$ , $f=1.0$ MHz
$G_c$	Conversion Gain	12			dB	$V_{CE}=10$ V, $I_E=-5.0$ mA $f=200$ MHz, $f_L=258$ MHz
$I_{CBO}$	Collector Cutoff Current			0.1	$\mu$ A	$V_{CB}=20$ V, $I_E=0$
$V_{CE(sat)}$	Collector Saturation Voltage			0.5	V	$I_C=10$ mA, $I_B=1.0$ mA

**Classification of  $h_{FE}$**

Rank	L	K
Range	60 - 120	100 - 200

$h_{FE}$  Test Conditions:  $V_{CE}=10$  V,  $I_C=5.0$  mA