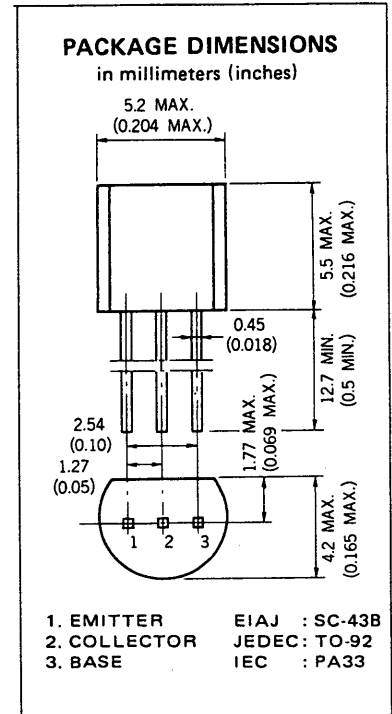


**DESCRIPTION** The 2SA952 is designed for use in output stage of portable radio and cassette type tape recorder, general purpose applications.

- FEATURES**
- High total power dissipation.  
 $P_T = 600$  mW
  - High  $h_{FE}$  and low  $V_{CE(sat)}$ .  
 $h_{FE}$  ( $I_C = -100$  mA) : 200 TYP.  
 $V_{CE(sat)}$  ( $-700$  mA) :  $-0.25$  V TYP.

**ABSOLUTE MAXIMUM RATINGS**

- Maximum Temperatures
- Storage Temperature .....  $-55$  to  $+150$  °C
  - Junction Temperature .....  $+150$  °C Maximum
- Maximum Power Dissipation ( $T_a = 25$  °C)
- Total Power Dissipation ..... 600 mW
- Maximum Voltages and Currents ( $T_a = 25$  °C)
- $V_{CBO}$  Collector to Base Voltage .....  $-30$  V
  - $V_{CEO}$  Collector to Emitter Voltage .....  $-25$  V
  - $V_{EBO}$  Emitter to Base Voltage .....  $-5.0$  V
  - $I_C$  Collector Current .....  $-700$  mA
  - $I_B$  Base Current .....  $-150$  mA



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE1}^*$	DC Current Gain	90	200	400	—	$V_{CE} = -1.0$ V, $I_C = -100$ mA
$h_{FE2}^*$	DC Current Gain	50	100		—	$V_{CE} = -1.0$ V, $I_C = -700$ mA
$C_{ob}$	Collector to Base Capacitance		17	40	pF	$V_{CB} = -6.0$ V, $I_E = 0$ $f = 1.0$ MHz
$f_T$	Gain Bandwidth Product	50	160		MHz	$V_{CE} = -6.0$ V, $I_E = 10$ mA
$V_{BE}^*$	Base to Emitter Voltage	$-600$	$-640$	$-700$	mV	$V_{CE} = -6.0$ V, $I_C = -10$ mA
$V_{CE(sat)}^*$	Collector Saturation Voltage		$-0.25$	$-0.6$	V	$I_C = -700$ mA, $I_B = -70$ mA
$V_{BE(sat)}^*$	Base Saturation Voltage		$-0.95$	$-1.2$	V	$I_C = -700$ mA, $I_B = -70$ mA
$I_{CBO}$	Collector Cutoff Current			$-100$	nA	$V_{CB} = -30$ V, $I_E = 0$
$I_{EBO}$	Emitter Cutoff Current			$-100$	nA	$V_{EB} = -5.0$ V, $I_C = 0$

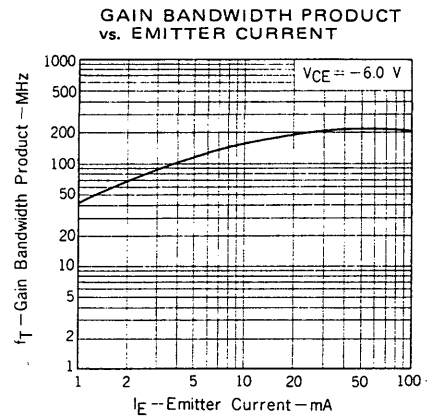
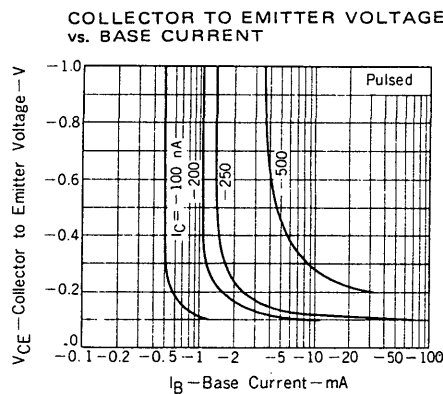
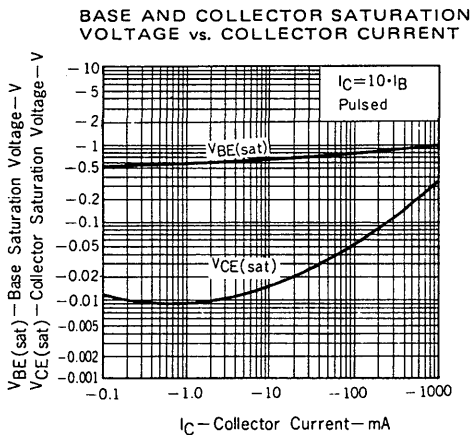
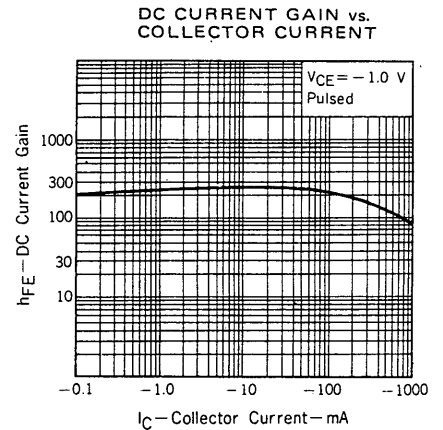
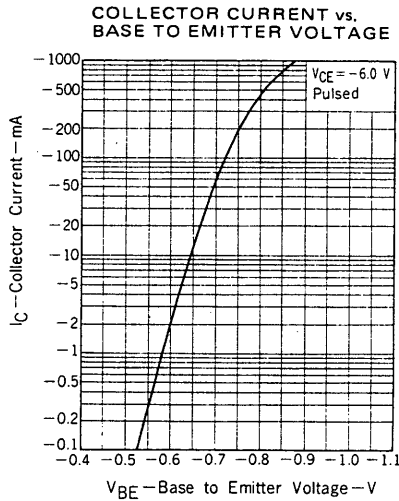
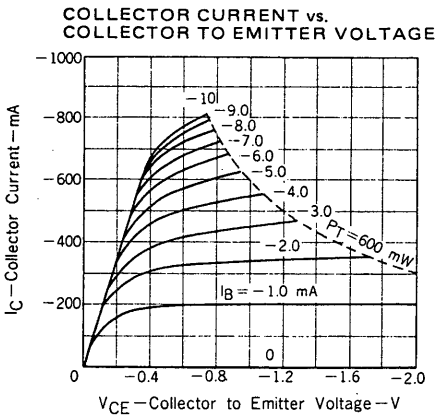
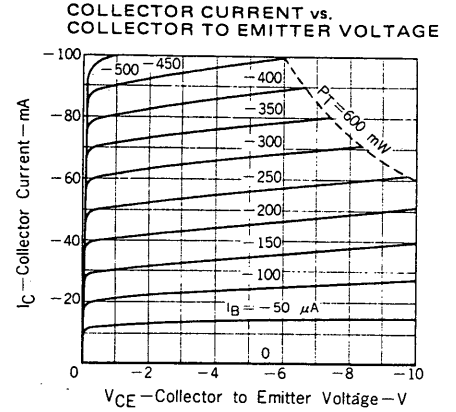
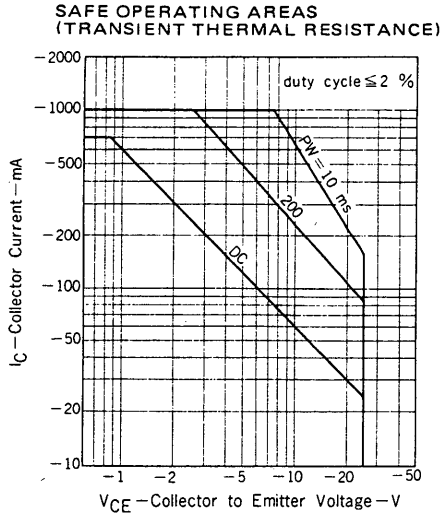
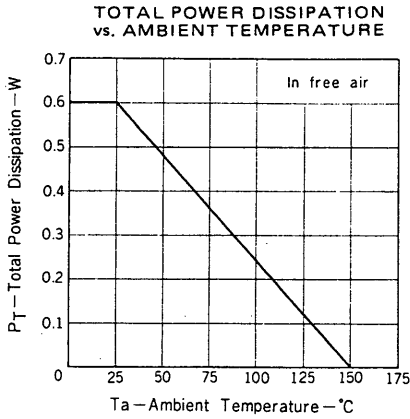
\*Pulsed PW  $\leq 350$   $\mu$ s, duty cycle  $\leq 2.0$  %

**Classification of  $h_{FE1}$**

Rank	M	L	K
Range	90 - 180	135 - 270	200 - 400

$h_{FE}$  Test Conditions :  $V_{CE} = -1.0$  V,  $I_C = -100$  mA

TYPICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted)



EMITTER TO BASE AND COLLECTOR TO BASE CAPACITANCE vs. REVERSE VOLTAGE

