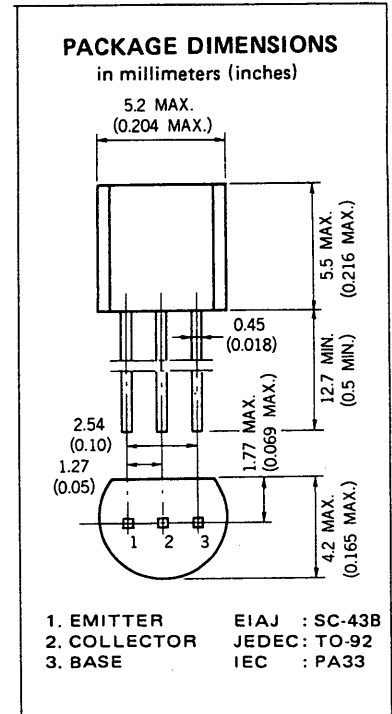


DESCRIPTION The 2SA952 is designed for use in output stage of portable radio and cassette type tape recorder, general purpose applications.

- 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, $I_C = 0$

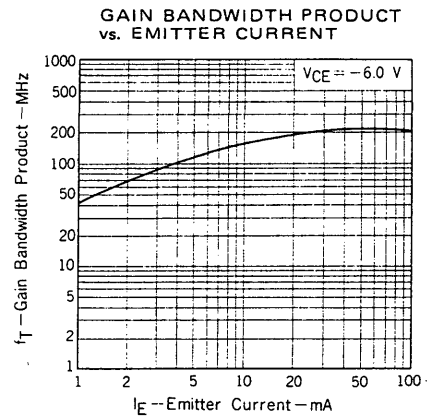
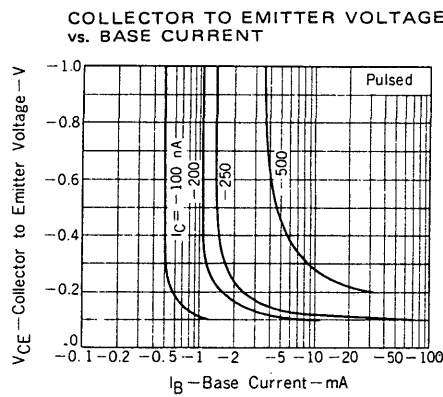
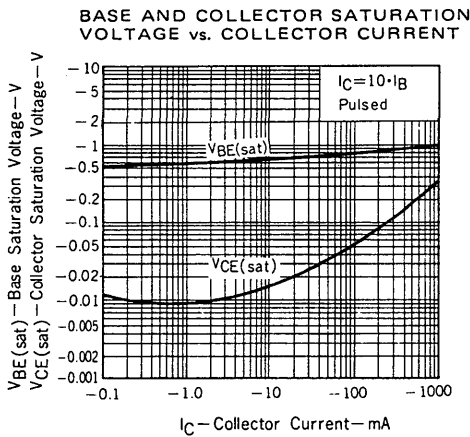
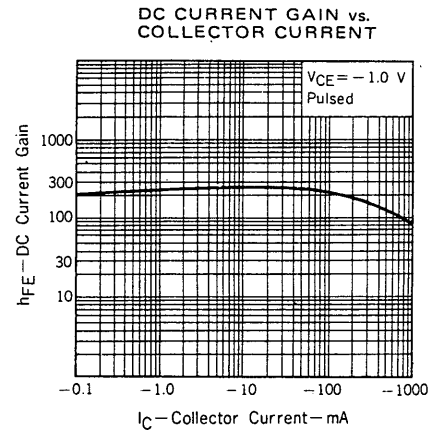
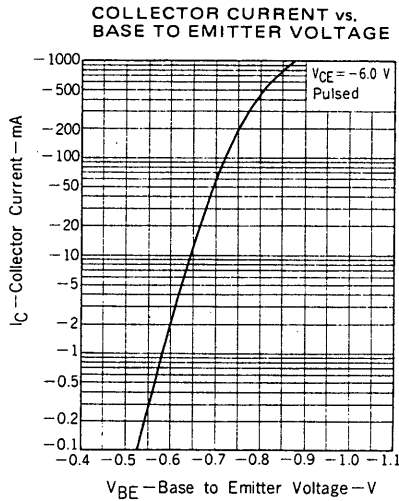
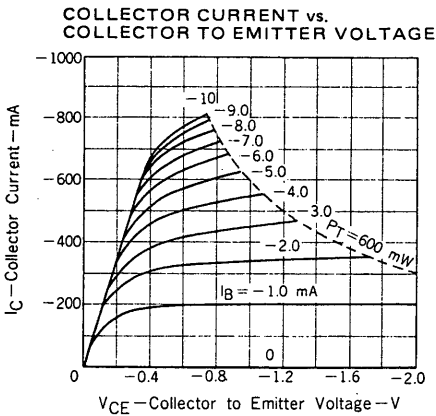
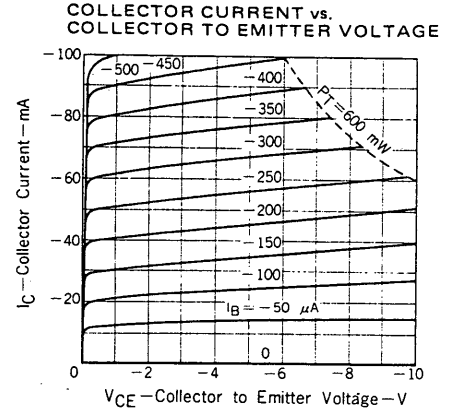
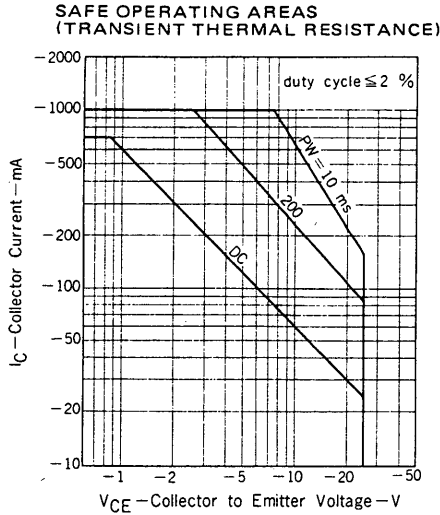
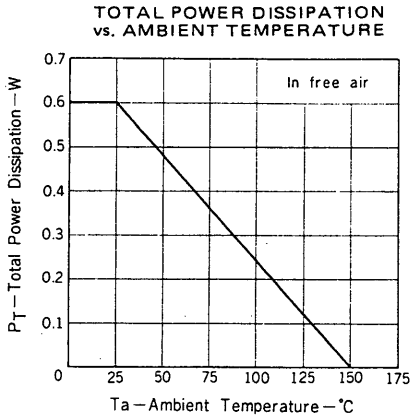
*Pulsed PW ≤ 350 μ s, duty cycle ≤ 2.0 %

Classification of h_{FE1}

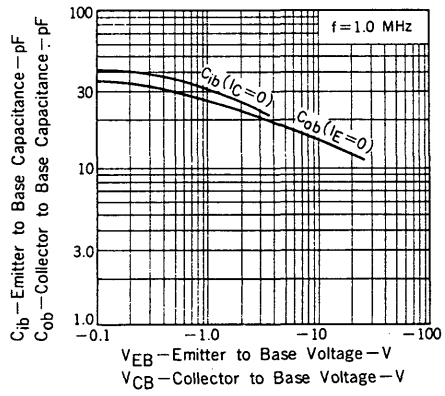
Rank	M	L	K
Range	90 - 180	135 - 270	200 - 400

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



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