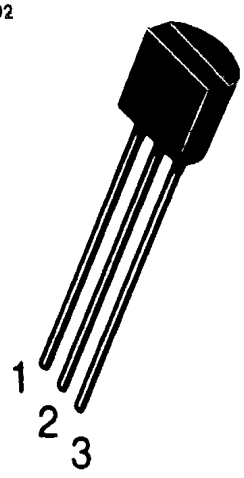
Transistors
2SA992

USHA (INDIA) LTD

AUDIO FREQUENCY LOW NOISE AMPLIFIER

TO-92



1. Emitter 2. Collector 3. Base

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	−120	V
Collector-Emitter Voltage	V_{CEO}	−120	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−50	mA
Base Current	I_B	−10	mA
Collector Dissipation	P_C	500	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

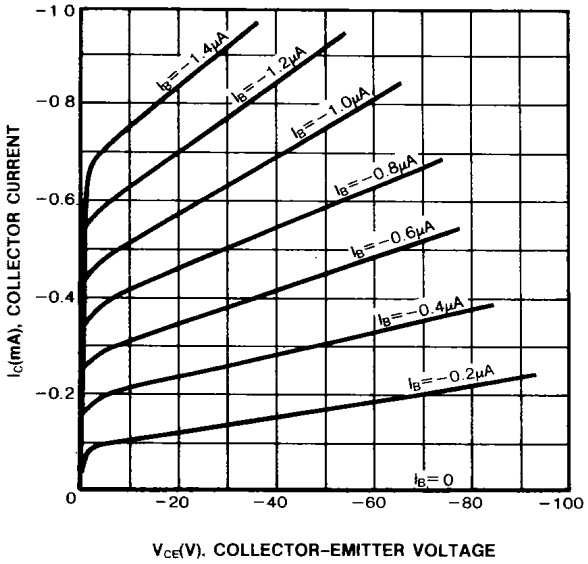
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=−120V, I_E=0			−50	nA
Collector Cutoff Current	I_{CEO}	V_{CE}=−100V, R_{BE}=∞			−1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=−5V, I_C=0			−50	nA
DC Current Gain	h_{FE1}	V_{CE}=−6V, I_C=−0.1mA	150	500		
	h_{FE2}	V_{CE}=−6V, I_C=−1mA	200	500	800	
Base Emitter On Voltage	V_{BE} (on)	V_{CE}=−6V, I_C=−1mA	−0.55	−0.61	−0.65	V
Collector Emitter Saturation Voltage	V_{CE} (sat)	I_C=−10mA, I_B=−1mA		−0.09	−0.3	V
Current Gain Bandwidth Product	f_T	V_{CE}=−6V, I_E=1mA	50	100		MHz
Output Capacitance	Cob	V_{CB}=−30V, I_E=0 f=1MHz		2	3	pF
Noise Voltage	NV			25	40	mV

h_{FE}(2) CLASSIFICATION

Classification	P	F	E
h_{FE}(2)	200-400	300-600	400-800

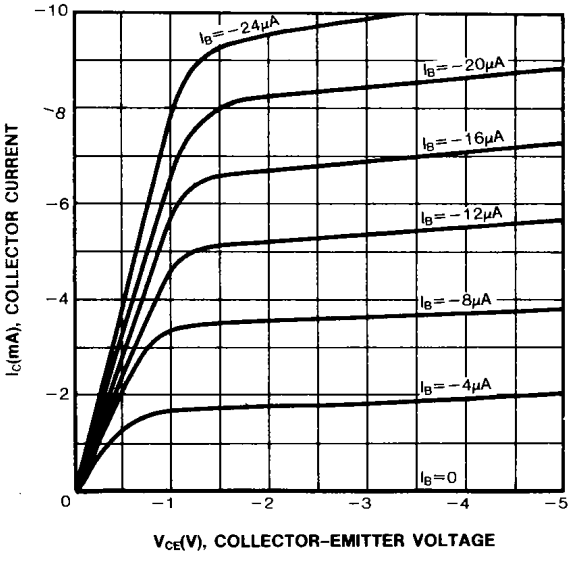
ISO 14001 CERTIFIED
AN ISO 9002 COMPANY

STATIC CHARACTERISTIC



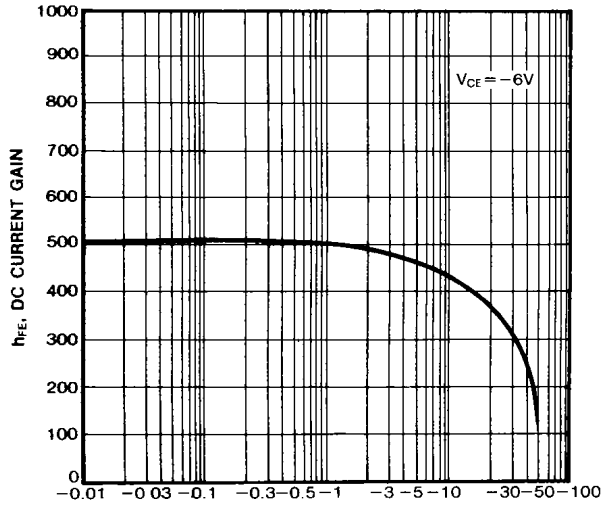
V_{CE}(V), COLLECTOR-EMITTER VOLTAGE

STATIC CHARACTERISTIC



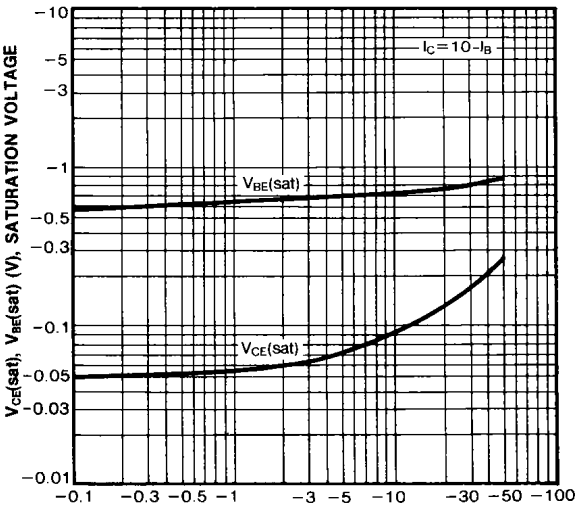
V_{CE}(V), COLLECTOR-EMITTER VOLTAGE

DC CURRENT GAIN



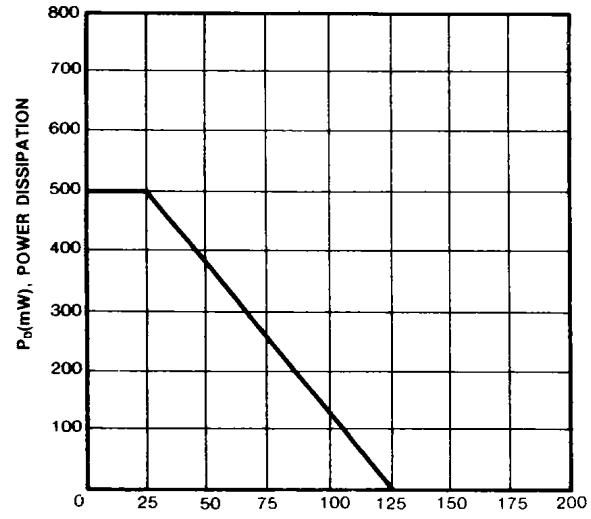
I_C(mA), COLLECTOR CURRENT

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



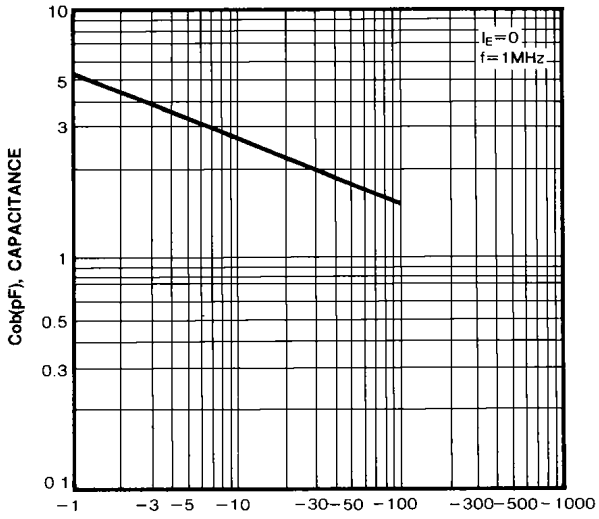
I_C(mA), COLLECTOR CURRENT

POWER DERATING



T_a(°C), AMBIENT TEMPERATURE

COLLECTOR OUTPUT CAPACITANCE



V_{CB}(V), COLLECTOR-BASE VOLTAGE

CURRENT GAIN-BANDWIDTH PRODUCT