

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

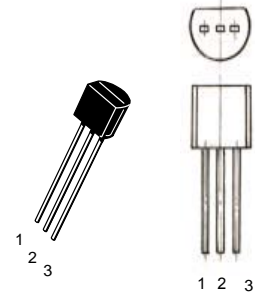
## FEATURES

- Low noise
- Excellent  $h_{FE}$  linearity
- Complementary to A733T

## MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	150	mA
Collector Power Dissipation	$P_C$	400	mW
Junction, Storage Temperature	$T_J, T_{STG}$	125, -55~125	$^\circ\text{C}$

TO-92



1. EMITTER
2. COLLECTOR
3. BASS

## ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ unless otherwise specified)

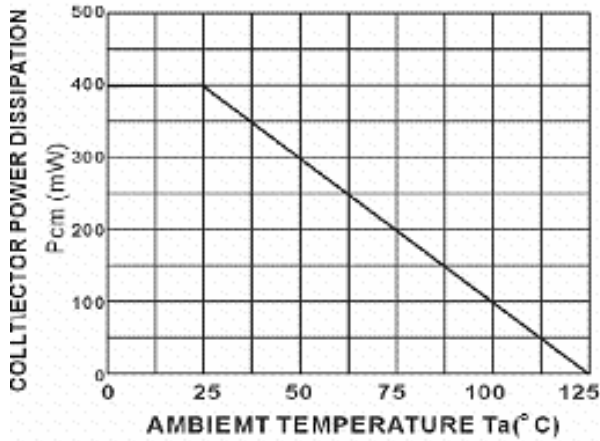
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	60			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}, I_B = 0$	50			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\text{mA}, I_C = 0$	5			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 60\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Collector Cut-off Current	$I_{CEO}$	$V_{CE} = 45\text{V}$			0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	70		700	
	$h_{FE(2)}$	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			1	V
Collector Power Dissipation	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			3.0	pF
Transition Frequency	$f_T$	$V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	200			MHz
Noise Figure	<b>NF</b>	$V_{CE}=6\text{V}, I_C=0.1\text{mA}, R_G=10\text{K}\Omega, f=\text{kMHz}$			10	dB

## CLASSIFICATION OF $h_{FE}$

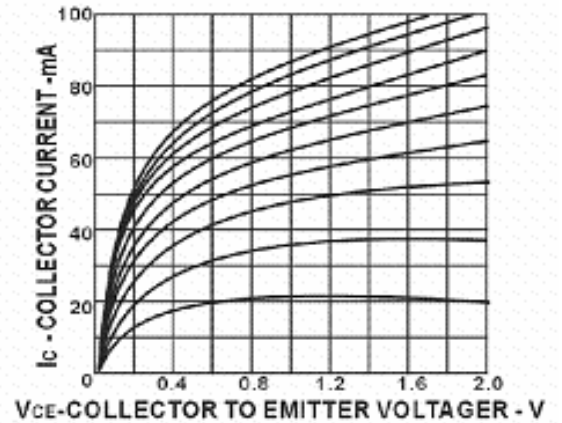
Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

**TYPICAL CHARACTERISTICS**

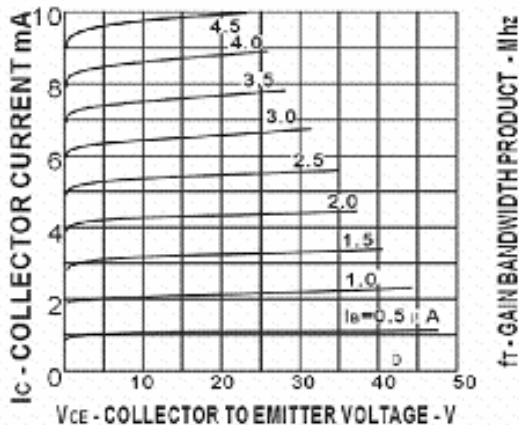
**TOTAL Power Dissipation vs AMBIENT Temperature**



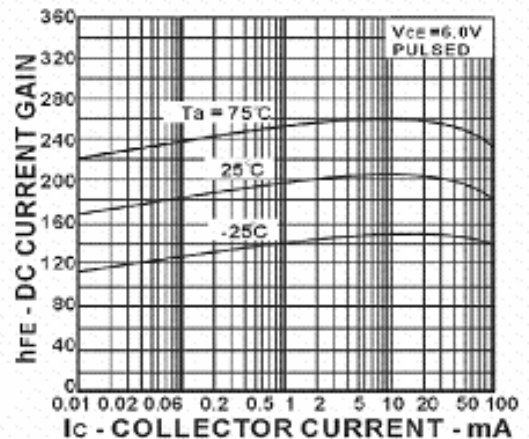
**COLLECTOR CURRENT vs COLLECTOR TO EMITTER VOLTAGE**



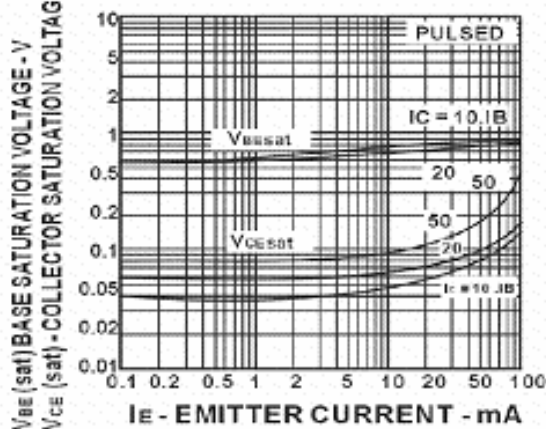
**COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE**



**DC CURRENT GAIN vs. COLLECTOR CURRENT**



**COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT**



**DC CURRENT GAIN vs. COLLECTOR CURRENT**

