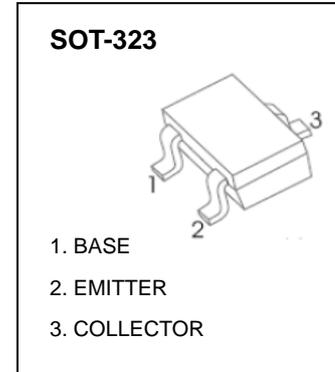


## TRANSISTOR (NPN)

### FEATURE

- Excellent  $h_{FE}$  Linearity
- Low noise
- Complementary to A733W



**MARKING: CR**

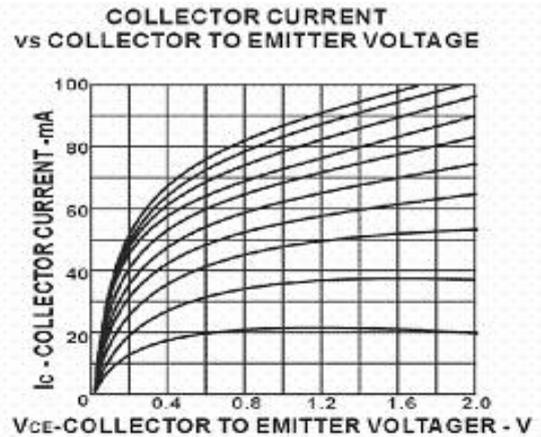
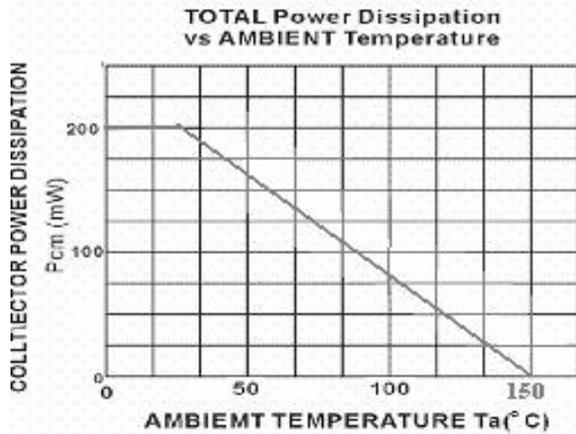
### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	150	mA
$P_C$	Collector Power Dissipation	200	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

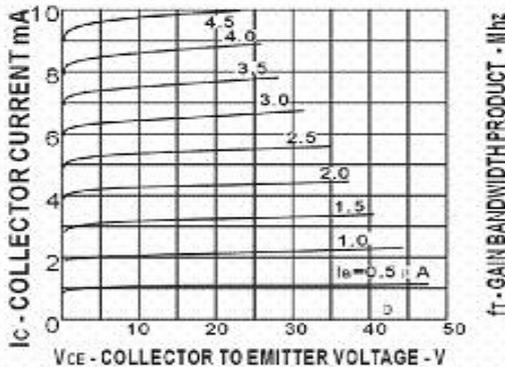
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C=100\mu\text{A}$ , $I_E=0$	60			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=1\text{mA}$ , $I_B=0$	50			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=0.1\text{mA}$ , $I_C=0$	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	$I_{CER}$	$V_{CE}=55\text{V}$ , $R=10\text{M}\Omega$			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	$h_{FE(1)}$	$V_{CE}=6\text{V}$ , $I_C=1\text{mA}$	200		400	
	$h_{FE(2)}$	$V_{CE}=6\text{V}$ , $I_C=0.1\text{mA}$	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
Transition frequency	$f_T$	$V_{CE}=6\text{V}$ , $I_C=10\text{mA}$ , $f=30\text{MHz}$	150			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			3.0	pF
Noise figure	NF	$V_{CE}=6\text{V}$ , $I_C=0.1\text{mA}$ $R_g=10\text{k}\Omega$ , $f=1\text{kHz}$		4	10	dB

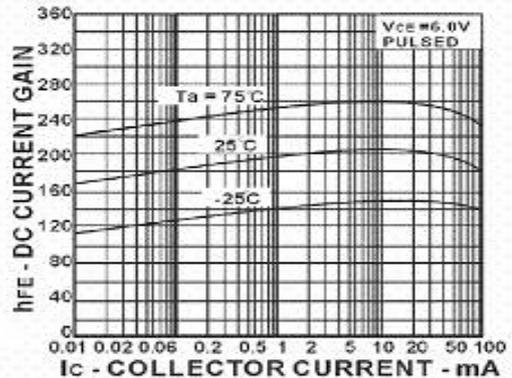
### Typical Characteristics



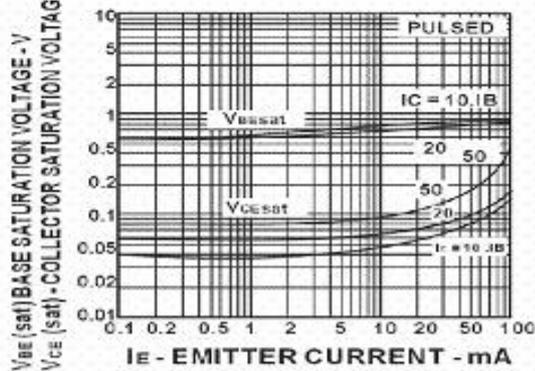
**COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE**



**DC CURRENT GAIN vs. COLLECTOR CURRENT**



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



**DC CURRENT GAIN vs. COLLECTOR CURRENT**

