

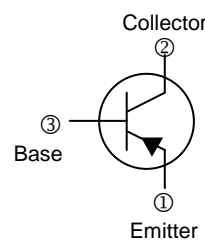
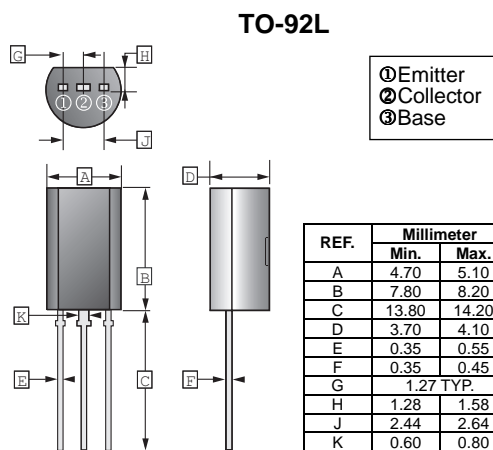
RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

### FEATURE

- High Voltage :  $V_{CE0} = -160V$
- Large Continuous Collector Current Capability
- Complementary to 2SC2383

### CLASSIFICATION OF $h_{FE}$

Product-Rank	2SA1013-R	2SA1013-O	2SA1013-Y
Range	60~120	100~200	160~320



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CBO}$	-160	V
Collector to Emitter Voltage	$V_{CEO}$	-160	V
Emitter to Base Voltage	$V_{EBO}$	-6	V
Collector Current - Continuous	$I_C$	-1	A
Collector Power Dissipation	$P_C$	0.9	W
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ C$

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-160	-	-	V	$I_C = -100\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-160	-	-	V	$I_C = -1mA, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-	-	V	$I_E = -10\mu A, I_C = 0$
Collector Cut-off Current	$I_{CBO}$	-	-	-1	$\mu A$	$V_{CB} = -150V, I_E = 0$
Emitter Cut-off Current	$I_{EBO}$	-	-	-1	$\mu A$	$V_{EB} = -6V, I_C = 0$
DC Current Gain	$h_{FE}$	60	-	320		$V_{CE} = -5V, I_C = -200mA$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-1.5	V	$I_C = -500mA, I_B = -50mA$
Base-Emitter Voltage	$V_{BE}$	-	-	-0.75	V	$V_{CE} = -5V, I_C = -5mA$
Transition Frequency	$f_T$	15	-	-	MHZ	$V_{CE} = -5V, I_C = -200mA$
Collector Output Capacitance	$C_{Ob}$	-	-	35	pF	$V_{CB} = -10V, I_E = 0, f = 1 MHz$

**CHARACTERISTIC CURVES**

