

2SC640 NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into five groups R, O, Y, P and L, according to its DC current gain. As complementary type the PNP transistor 2SA733 is recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Collector 3. Base
 TO-92 Plastic Package
 Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$

Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$ ¹⁾					
Current Gain Group R O Y P L	h_{FE}	40	-	80	-
	h_{FE}	70	-	140	-
	h_{FE}	120	-	240	-
	h_{FE}	200	-	400	-
	h_{FE}	350	-	700	-
Collector Base Breakdown Voltage at $I_C=100\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_C=10\text{mA}$	$V_{(BR)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at $I_E=10\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current at $V_{CB}=40\text{V}$	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current at $V_{EB}=3\text{V}$	I_{EBO}	-	-	0.1	μA
Collector Saturation Voltage at $I_C=100\text{mA}$, $I_B=10\text{mA}$	$V_{CE(sat)}$	-	0.15	0.3	V
Gain Bandwidth Product at $V_{CE}=6\text{V}$, $I_C=10\text{mA}$	f_T	-	300	-	MHz
Output Capacitance at $V_{CB}=6\text{V}$, $f=1\text{MHz}$	C_{OB}	-	2.5	-	pF
Noise Figure at $V_{CE}=6\text{V}$, $I_E=0.5\text{mA}$ at $f=1\text{KHz}$, $R_S=500\Omega$	NF	-	4	-	dB