

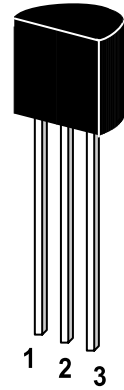
# ST 2SC640

## 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 ST 2SA733 is recommended.

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

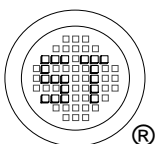


1. Emitter 2. Collector 3. Base

TO-92 Plastic Package  
Weight approx. 0.19g

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

	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	$^\circ\text{C}$



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ISO/TS 16949 : 2002  
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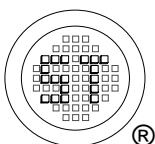
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Dated : 27/05/2003

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6\text{V}$ , $I_C=1\text{mA}$ <sup>1)</sup>					
Current Gain Group R	$h_{FE}$	40	-	80	-
O	$h_{FE}$	70	-	140	-
Y	$h_{FE}$	120	-	240	-
P	$h_{FE}$	200	-	400	-
L	$h_{FE}$	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	$\mu\text{A}$
Emitter Cutoff Current at $V_{EB}=3\text{V}$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$
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



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