



## TC200

Preliminary

***NPN EPITAXIAL SILICON TRANSISTOR***

## EPITAXIAL PLANAR NPN TRANSISTOR

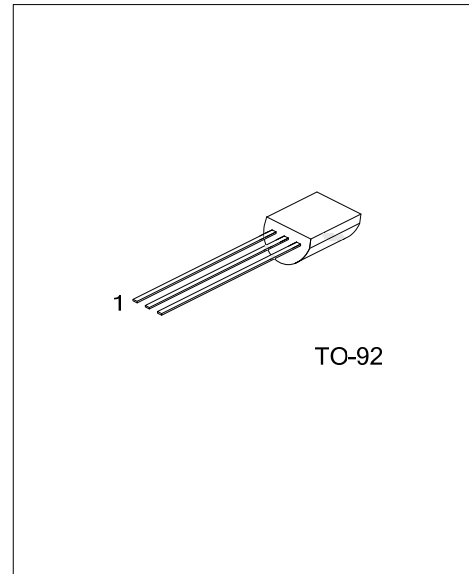
### DESCRIPTION

The UTC **TC200** is an epitaxial planar NPN transistor; it uses UTC's advanced technology to provide the customers with high DC current gain and low collector-emitter saturation voltage, etc.

The UTC **TC200** is suitable for general purpose and switching application, etc.

### FEATURES

- \* High DC current gain
- \* Low Collector-Emitter Saturation Voltage



### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TC200L-x-T92-B	TC200G-x-T92-B	TO-92	E	C	B	Tape Box
TC200L-x-T92-K	TC200G-x-T92-K	TO-92	E	C	B	Bulk

Note: Pin Assignment: C: Collector B: Base E: Emitter

<p>TC200L-x-T92-B</p>	<p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Rank</p> <p>(4) Halogen Free</p>	<p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) refer to CLASSIFICATION OF <math>h_{FE1}</math></p> <p>(4) L: Lead Free, G: Halogen Free</p>
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■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	45	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	500	mA
Emitter Current	I <sub>E</sub>	-500	mA
Collector Power Dissipation	P <sub>C</sub>	625	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ 150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0			0.1	μA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	μA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =50mA	70		240	
	h <sub>FE2</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =200mA	25			
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA			0.25	V
Base-Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =200mA			1.0	V
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =20mA		300		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =6V, I <sub>E</sub> =0, f=1MHz		7.0		pF

■ CLASSIFICATION OF h<sub>FE1</sub>

RANK	O	Y
h <sub>FE1</sub>	70 ~ 140	120 ~ 240

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