



## TC200

## NPN EPITAXIAL SILICON TRANSISTOR

### EPITAXIAL PLANAR NPN TRANSISTOR

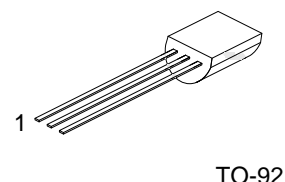
#### DESCRIPTION

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



TO-92

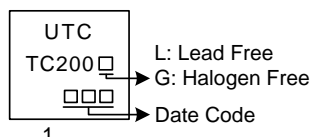
#### ORDERING INFORMATION

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>TC200G-x-T92-B</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Halogen Free</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) refer to CLASSIFICATION OF <math>h_{FE1}</math> (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



### ■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Emitter Current	$I_E$	-500	mA
Collector Power Dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ 150	$^\circ\text{C}$

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 ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=50\text{V}$ , $I_E=0$			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	$h_{FE1}$	$V_{CE}=2\text{V}$ , $I_C=50\text{mA}$	70		240	
	$h_{FE2}$	$V_{CE}=2\text{V}$ , $I_C=200\text{mA}$	25			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$ , $I_B=10\text{mA}$			0.25	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=2\text{V}$ , $I_C=200\text{mA}$			1.0	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=6\text{V}$ , $I_C=20\text{mA}$		300		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=6\text{V}$ , $I_E=0$ , $f=1\text{MHz}$		7.0		pF

### ■ CLASSIFICATION OF $h_{FE1}$

RANK	O	Y
$h_{FE1}$	70 ~ 140	120 ~ 240

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