



## BD135

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

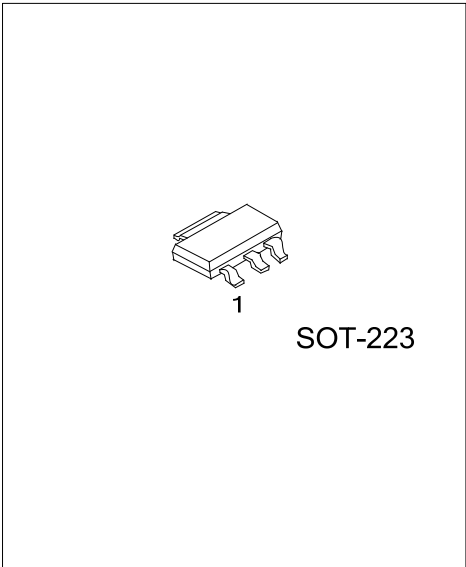
### NPN EPITAXIAL TRANSISTOR

#### DESCRIPTION

The UTC **BD135** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with high DC current gain, etc.

#### FEATURES

\* high DC current gain



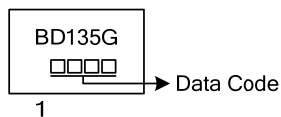
#### ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
BD135G-xx-AA3-R	SOT-223	B	C	E	Tape Reel

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

<p>BD135G-xx-AA3-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Rank</li> <li>(4) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel, K: Bulk</li> <li>(2) AA3: SOT-223, T60: TO-126</li> <li>(3) refer to CLASSIFICATION OF <math>h_{FE3}</math></li> <li>(4) G: Halogen Free and Lead Free, L: Lead Free</li> </ul>
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#### MARKING



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■ ABSOLUTE MAXIMUM RATINGS ( $T_C=25^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	45	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current (DC)	$I_C$	1.5	A
Collector Current (Pulse)	$I_{CP}$	3.0	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	12.5	W
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 ( $T_C=25^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Saturation Voltage	$V_{CEO(SUS)}$	$I_C=30\text{mA}, I_B=0$	45			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=2\text{V}, I_C=5\text{mA}$	25			
	$h_{FE2}$	$V_{CE}=2\text{V}, I_C=0.5\text{A}$	25			
	$h_{FE3}$	$V_{CE}=2\text{V}, I_C=150\text{mA}$	40		250	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
Base-Emitter ON Voltage	$V_{BE,ON}$	$V_{CE}=2\text{V}, I_C=0.5\text{A}$			1	V

Note: Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

■  $h_{FE3}$  CLASSIFICATION

CLASSIFICATION	6	10	16
$h_{FE3}$	40 ~ 100	63 ~ 160	100 ~ 250

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