



## UD2195

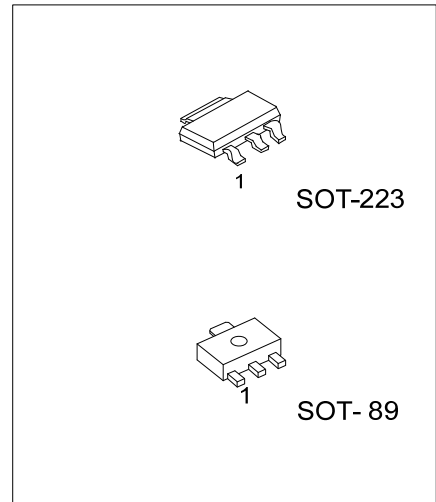
Preliminary

**NPN SILICON TRANSISTOR**

### NPN EPITAXIAL PLANAR TRANSISTOR

#### DESCRIPTION

The UTC **UD2195** is designed for use in general purpose amplifier and low speed switching application.



#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UD2195L-AA3-R	UD2195G-AA3-R	SOT-223	B	C	E	Tape Reel
UD2195L-AB3-R	UD2195G-AB3-R	SOT-89	B	C	E	Tape Reel

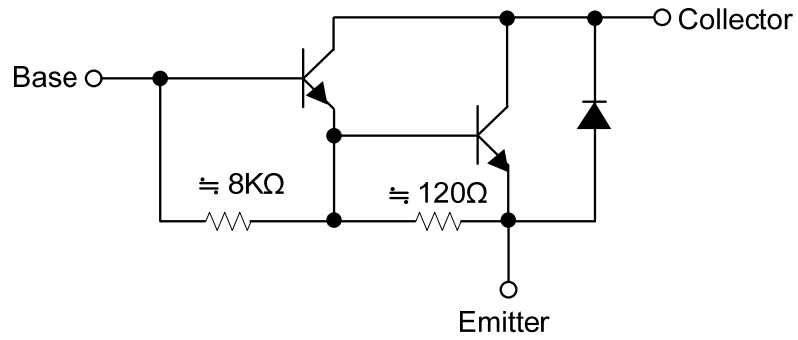
Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>UD2195G-AA3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223, AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
-----------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------

#### MARKING

SOT-89	SOT-223
<p>Date Code UD2195 L: Lead Free G: Halogen Free 1</p>	<p>UD2195 L: Lead Free G: Halogen Free Date Code 1</p>

## ■ EQUIVALENT CIRCUIT



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	130	V
Collector-Emitter Voltage		$V_{CEO}$	120	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	4	A
	Pulse(Note 2)		6	
Collector Dissipation	SOT-223	$P_C$	1	W
	SOT-89		0.6	W
Junction Temperature		$T_J$	+150	$^{\circ}\text{C}$
Storage Temperature		$T_{STG}$	-55 ~ +150	$^{\circ}\text{C}$

Notes: 1. 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.

2. Pulse test: Pulse Width  $\leq 350\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

■ THERMAL CHARACTERISTICS

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-223	$\theta_{JA}$	125	$^{\circ}\text{C/W}$
	SOT-89		208	$^{\circ}\text{C/W}$

Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu\text{A}$ , $I_E=0$	130			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}$ , $I_B=0$	120			V
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$V_{CE}=4\text{V}$ , $I_C=2\text{A}$			2.8	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=100\text{V}$ , $I_E=0$			1	mA
Collector Cutoff Current	$I_{CEO}$	$V_{CE}=50\text{V}$ , $I_B=0$			2	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5\text{V}$ , $I_C=0$			2	mA

**ON CHARACTERISTICS**

DC Current Gain (Note)	$h_{FE}$	$V_{CE}=4\text{V}$ , $I_C=1\text{A}$	1000			
		$V_{CE}=4\text{V}$ , $I_C=2\text{A}$	500			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=2\text{A}$ , $I_B=2\text{mA}$			2	V

**SMALL-SIGNAL CHARACTERISTICS**

Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0\text{A}$ , $f=1\text{MHz}$			200	pF
--------------------	----------	---------------------------------------------------------	--	--	-----	----

Note: Pulse test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.