



## UD2195

Preliminary

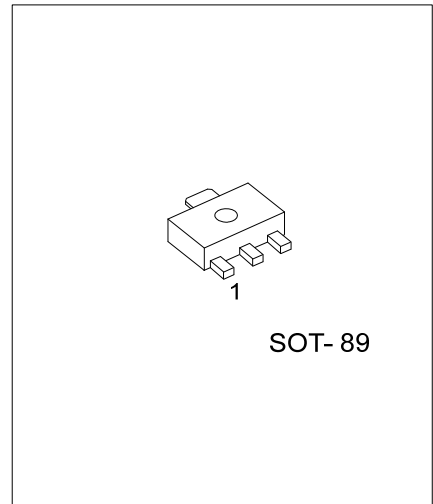
**NPN SILICON TRANSISTOR**

### NPN EPITAXIAL PLANAR TRANSISTOR

#### DESCRIPTION

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

\* Pb-free package process is adopted.



SOT- 89

Lead-free: UD2195L

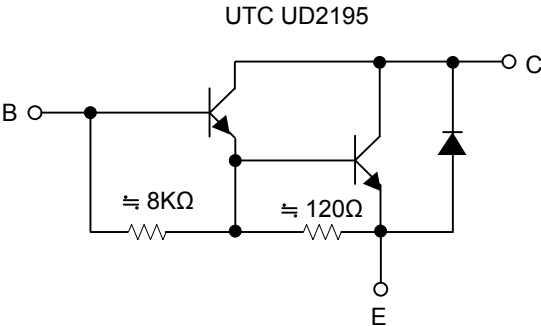
Halogen-free: UD2195G

#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
UD2195-AB3-R	UD2195L-AB3-R	UD2195G-AB3-R	SOT-89	B	C	E	Tape Reel

<p>UD2195L-AB3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89</p> <p>(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ EQUIVALENT CIRCUIT



B: Base  
C: Collector  
E: Emitter

■ ABSOLUTE MAXIMUM RATING ( $T_a=25^{\circ}\text{C}$ )

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

Note: 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 DATA

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

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{\text{CBO}}$	$I_{\text{C}}=100\mu\text{A}$ , $I_{\text{E}}=0$	130			V
Collector-Emitter Breakdown Voltage	$BV_{\text{CEO}}$	$I_{\text{C}}=1\text{mA}$ , $I_{\text{B}}=0$	120			V
Base-Emitter Turn-On Voltage	$V_{\text{BE(ON)}}$	$V_{\text{CE}}=4\text{V}$ , $I_{\text{C}}=2\text{A}$			2.8	V
Collector Cutoff Current	$I_{\text{CBO}}$	$V_{\text{CB}}=100\text{V}$ , $I_{\text{E}}=0$			1	mA
Collector Cutoff Current	$I_{\text{CEO}}$	$V_{\text{CE}}=50\text{V}$ , $I_{\text{B}}=0$			2	mA
Emitter Cutoff Current	$I_{\text{EBO}}$	$V_{\text{EB}}=5\text{V}$ , $I_{\text{C}}=0$			2	mA
<b>ON CHARACTERISTICS</b>						
DC Current Gain (Note)	$\eta_{\text{FE}}$	$V_{\text{CE}}=4\text{V}$ , $I_{\text{C}}=1\text{A}$	1000			
		$V_{\text{CE}}=4\text{V}$ , $I_{\text{C}}=2\text{A}$	500			
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_{\text{C}}=2\text{A}$ , $I_{\text{B}}=2\text{mA}$			2	V
<b>SMALL-SIGNAL CHARACTERISTICS</b>						
Output Capacitance	$C_{\text{ob}}$	$V_{\text{CB}}=10\text{V}$ , $I_{\text{E}}=0\text{A}$ , $f=1\text{MHz}$			200	pF

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

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