



UD2195

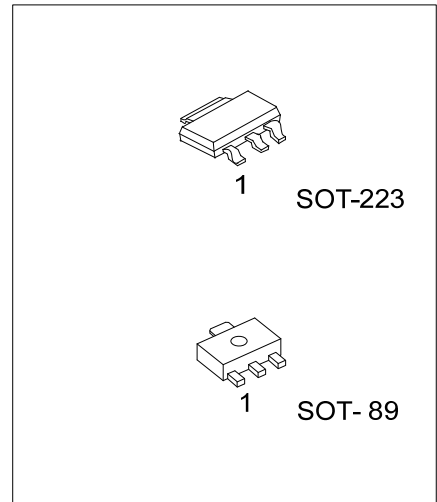
Preliminary

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

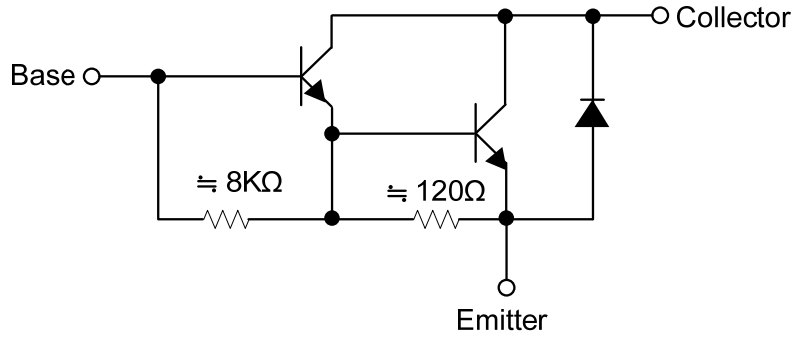
Note: Pin Assignment: B: Base C: Collector E: Emitter

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

SOT-89	SOT-223
<p>1</p>	<p>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 DATA

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

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}	$I_{\text{C}}=100\mu\text{A}$, $I_{\text{E}}=0$	130			V
Collector-Emitter Breakdown Voltage	BV_{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_{CBO}	$V_{\text{CB}}=100\text{V}$, $I_{\text{E}}=0$			1	mA
Collector Cutoff Current	I_{CEO}	$V_{\text{CE}}=50\text{V}$, $I_{\text{B}}=0$			2	mA
Emitter Cutoff Current	I_{EBO}	$V_{\text{EB}}=5\text{V}$, $I_{\text{C}}=0$			2	mA

ON CHARACTERISTICS

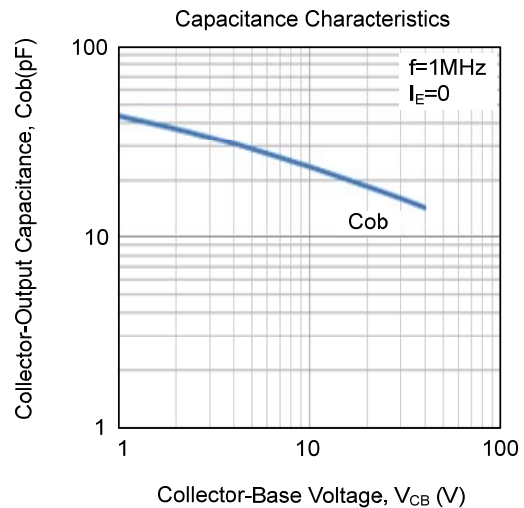
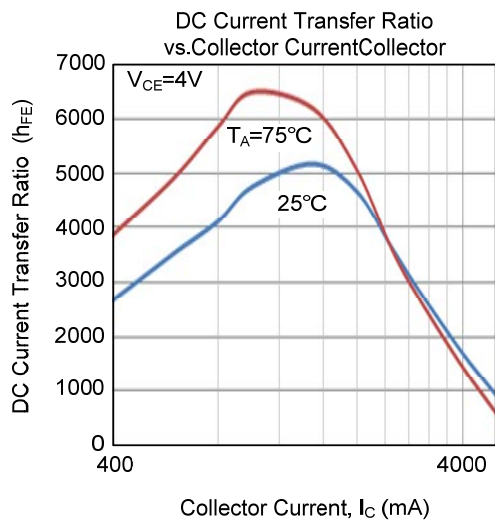
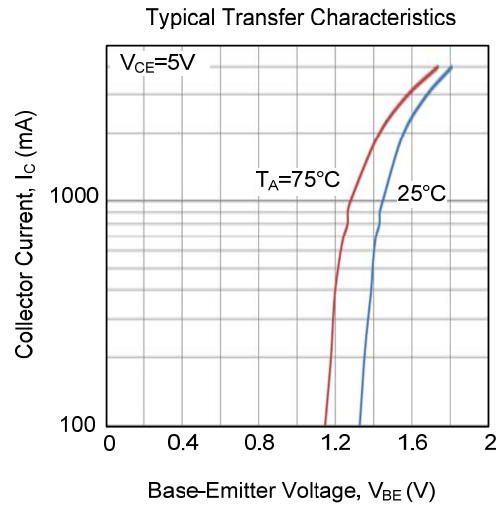
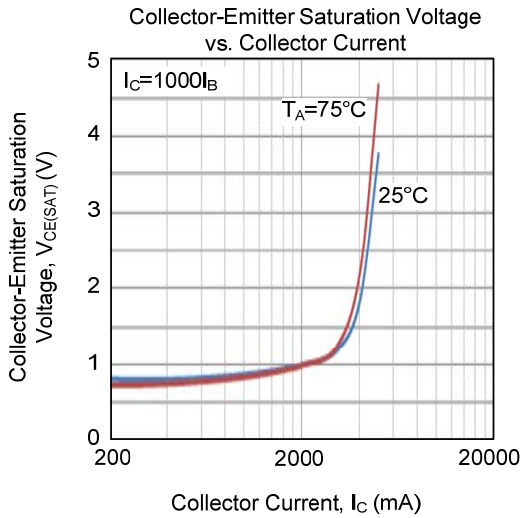
DC Current Gain (Note)	h_{FE}	$V_{\text{CE}}=4\text{V}$, $I_{\text{C}}=1\text{A}$	1000			
		$V_{\text{CE}}=4\text{V}$, $I_{\text{C}}=2\text{A}$	500			
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_{\text{C}}=2\text{A}$, $I_{\text{B}}=2\text{mA}$			2	V

SMALL-SIGNAL CHARACTERISTICS

Output Capacitance	C_{ob}	$V_{\text{CB}}=10\text{V}$, $I_{\text{E}}=0\text{A}$, $f=1\text{MHz}$			200	pF
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Note: Pulse test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

■ TYPICAL CHARACTERISTICS



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