



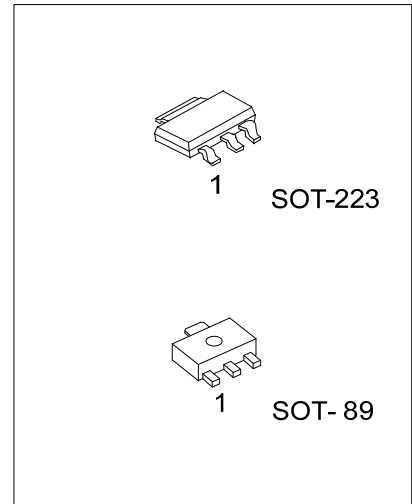
## UD2195

## 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

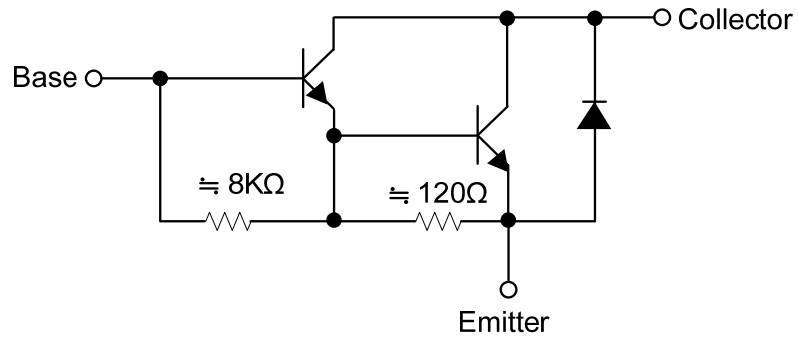
Note: Pin Assignment: B: Base C: Collector E: Emitter

<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>
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#### MARKING

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

■ EQUIVALENT CIRCUIT



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	150	V
Collector-Emitter Voltage		$V_{CEO}$	150	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	$\theta_{JA}$	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	$BV_{CBO}$	$I_C=100\mu\text{A}$ , $I_E=0$	150			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=20\mu\text{A}$ , $I_B=0$	150			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**

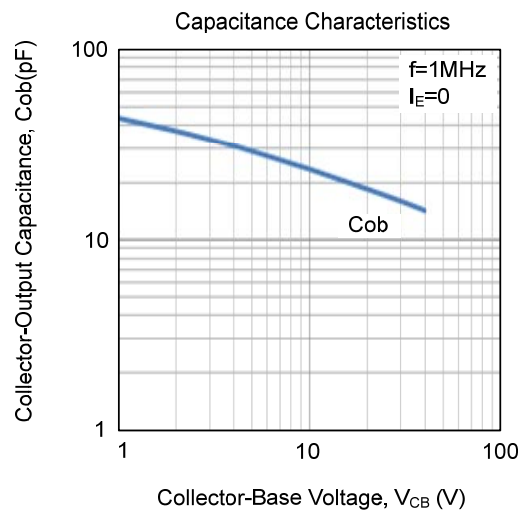
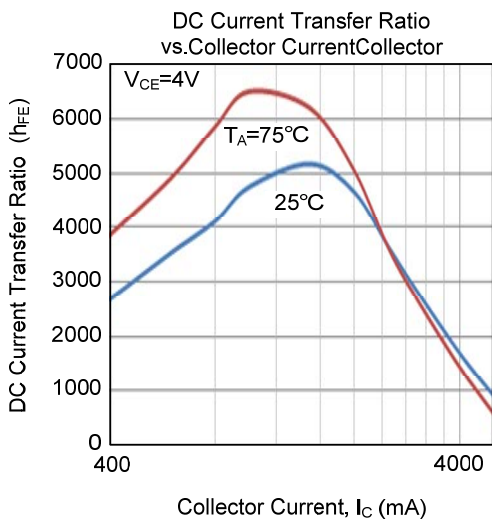
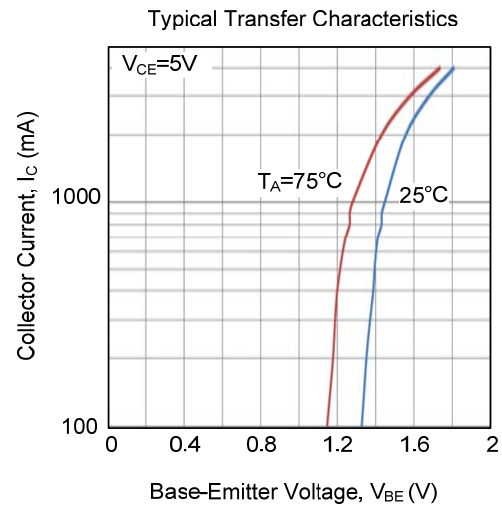
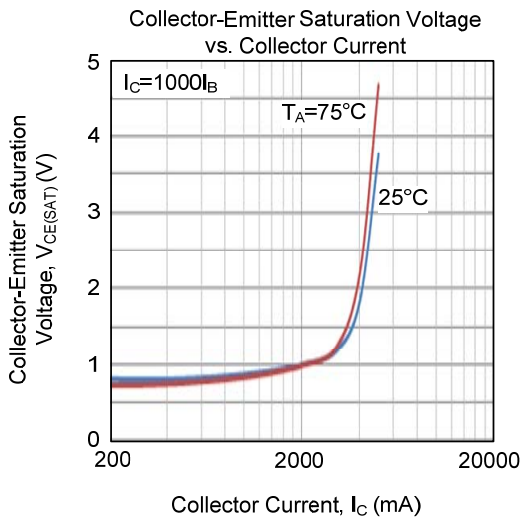
DC Current Gain (Note)	$h_{FE}$	$V_{CE}=4\text{V}$ , $I_C=1\text{A}$	1000			
		$V_{CE}=4\text{V}$ , $I_C=2\text{A}$	500			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=2\text{A}$ , $I_B=2\text{mA}$			2	V

**SMALL-SIGNAL CHARACTERISTICS**

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

■ TYPICAL CHARACTERISTICS



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