



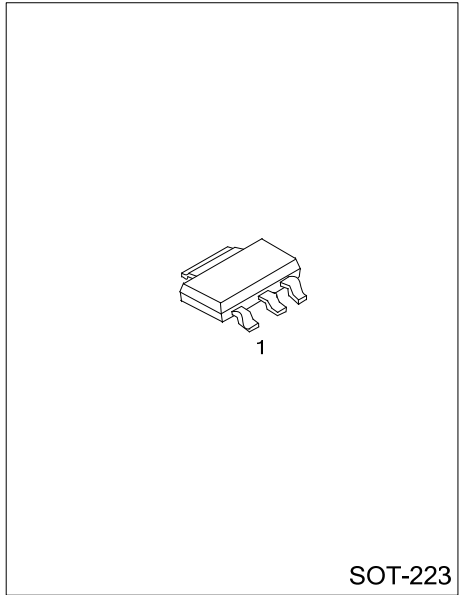
UP1856

PNP SILICON TRANSISTOR

HIGH CURRENT TRANSISTOR

■ FEATURES

- * High current switching
- * Low $V_{CE(SAT)}$
- * High h_{FE}



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UP1856L-AA3-R	UP1856G-AA3-R	SOT-223	B	C	E	Tape Reel

<p>UP1856L-AA3-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel (2) AA3:SOT-223 (3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-220	V
Collector-Emitter Voltage	V_{CEO}	-200	V
Emitter-Base Voltage	V_{EBO}	-6	V
Peak Pulse Current	$I_{C(PEAK)}$	-5	A
Continuous Collector Current	I_C	-2	A
Power Dissipation at $T_a=25^\circ\text{C}$	P_D	1	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

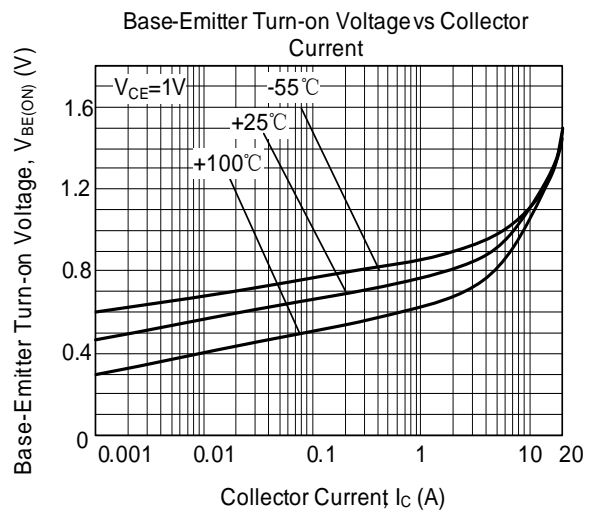
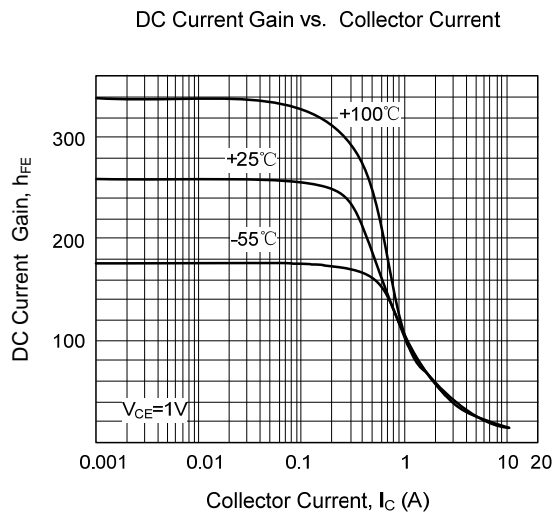
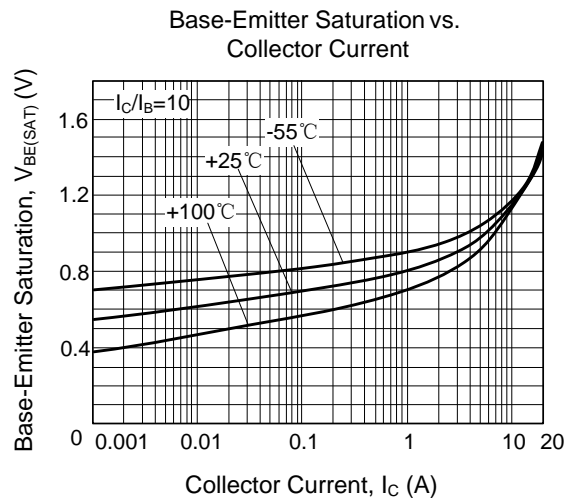
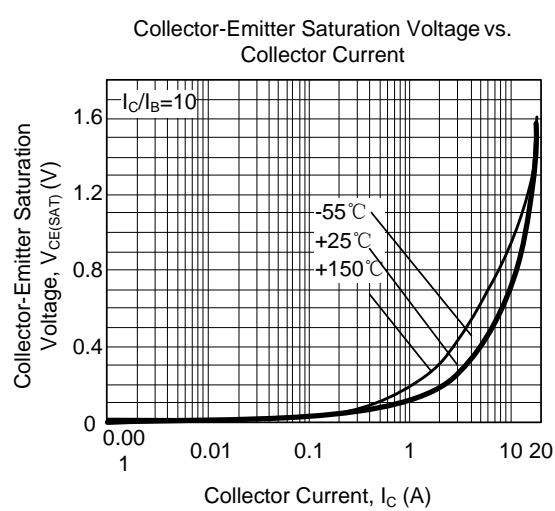
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10\text{mA}$, $I_B = 0$ (Note)	-200	-240		V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -0.1\text{mA}$, $I_E = 0$	-220	-300		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -0.1\text{mA}$, $I_C = 0$	-6	-8		V
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C = -100\text{mA}$, $I_B = -10\text{mA}$		-30	-50	mV
		$I_C = -1\text{A}$, $I_B = -100\text{mA}$		-120	-165	mV
		$I_C = -2\text{A}$, $I_B = -400\text{mA}$		-168	-275	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -2\text{A}$, $I_B = -400\text{mA}$		-970	-1110	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$V_{CE} = -5\text{V}$, $I_C = -2\text{A}$ (Note)		-810	-950	mV
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -200\text{V}$, $I_E = 0$			-50	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -6\text{V}$, $I_C = 0$			-10	nA
DC Current Gain (Note)	h_{FE1}	$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$	100	200	300	
	h_{FE2}	$V_{CE} = -5\text{V}$, $I_C = -1\text{A}$	100	200		
	h_{FE3}	$V_{CE} = -5\text{V}$, $I_C = -2\text{A}$	50	150		
	h_{FE4}	$V_{CE} = -5\text{V}$, $I_C = -5\text{A}$		10		
Transition Frequency	f_T	$V_{CE} = -10\text{V}$, $I_C = -100\text{mA}$, $f = 50\text{MHz}$		110		MHz
Output Capacitance	C_{ob}	$V_{CB} = -20\text{V}$, $f = 1\text{MHz}$		32		pF
Turn-on Time	t_{ON}	$I_C = -1\text{A}$, $I_{B1} = -100\text{mA}$		67		ns
Turn-off Time	t_{OFF}	$I_{B2} = 100\text{mA}$, $V_{CC} = -50\text{V}$		1140		ns

Note: Pulsed test: duty cycle $\leq 2\%$, $t_P = 300\mu\text{s}$.

TYPICAL CHARACTERISTICS



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