



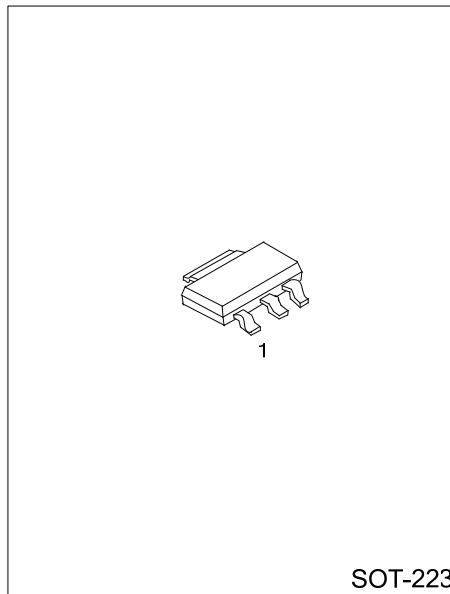
UP1855

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	
UP1855L-x-AA3-R	UP1855G-x-AA3-R	SOT-223	B	C	E	Tape Reel

UP1855L-x-AA3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AA3:SOT-223
	(3)Rank	(3) x: refer to Classification of h_{FE2}
	(4)Lead Plating	(4) G: Halogen Free, L: Lead Free

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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-180	V
Collector-Emitter Voltage	V_{CEO}	-140	V
Emitter-Base Voltage	V_{EBO}	-6	V
Peak Pulse Current	I_{CM}	-10	A
Continuous Collector Current	I_C	-4	A
Power Dissipation ($T_a = 25^\circ\text{C}$) (Note 2)	P_D	3	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +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. The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 4 square inch minimum

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

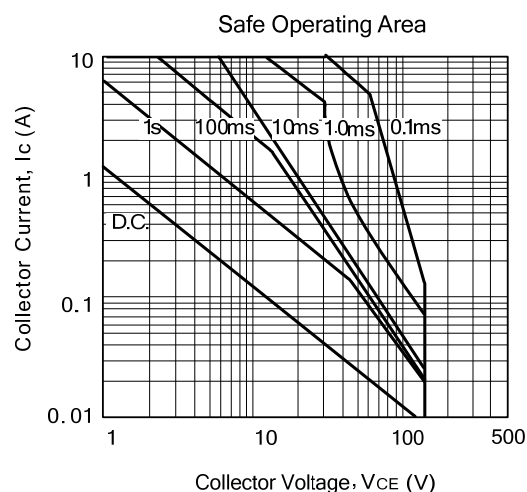
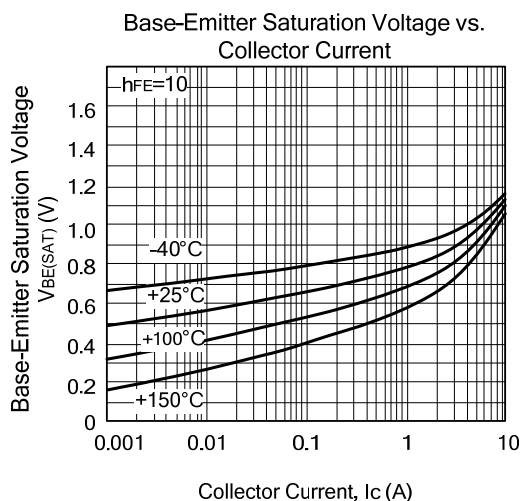
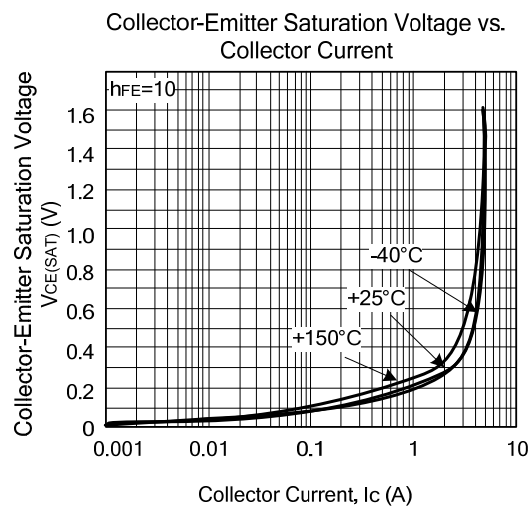
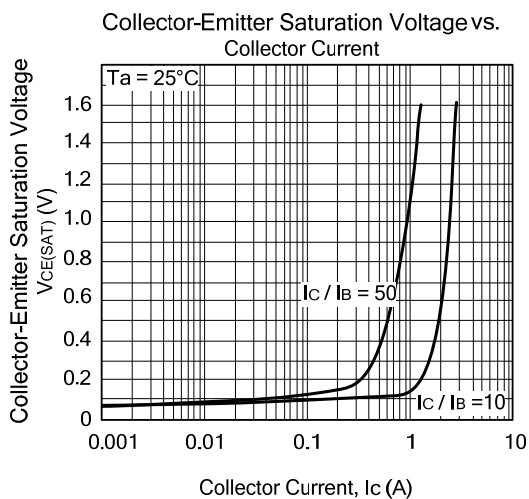
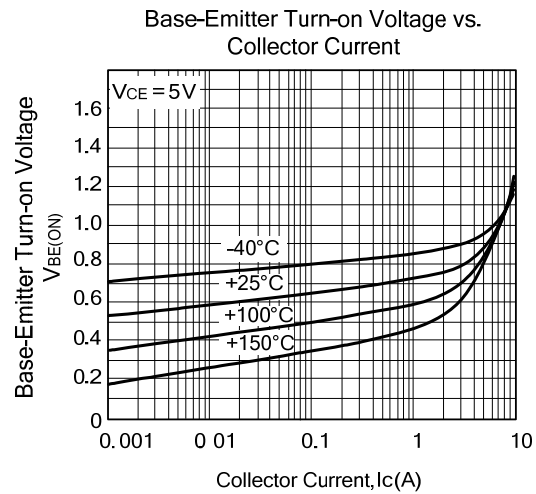
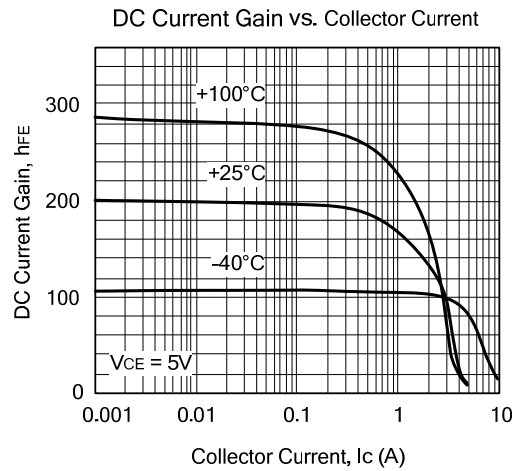
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu\text{A}$	-180	-210		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10\text{mA}$	-140	-170		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu\text{A}$ (Note)	-6	-8		V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -150\text{V}$			-50	nA
		$V_{CB} = -150\text{V}$, $T_a = 100^\circ\text{C}$			-1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6\text{V}$			-10	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$ (Note)		-30	-60	mV
		$I_C = -500\text{mA}$, $I_B = -50\text{mA}$ (Note)		-70	-120	mV
		$I_C = -1\text{A}$, $I_B = -100\text{mA}$ (Note)		-110	-150	mV
		$I_C = -3\text{A}$, $I_B = -300\text{mA}$ (Note)		-275	-550	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -3\text{A}$, $I_B = -300\text{mA}$ (Note)		-970	-1110	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$V_{CE} = -5\text{V}$, $I_C = -3\text{A}$ (Note)		-830	-950	mV
DC Current Gain	h_{FE1}	$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$ (Note)	100	200		
	h_{FE2}	$V_{CE} = -5\text{V}$, $I_C = -1\text{A}$ (Note)	100		300	
	h_{FE3}	$V_{CE} = -5\text{V}$, $I_C = -3\text{A}$ (Note)	28	140		
	h_{FE4}	$V_{CE} = -5\text{V}$, $I_C = -10\text{A}$ (Note)		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}	$V_{CB} = -20\text{V}$, $f = 1\text{MHz}$		40		pF
Switching Times	t_{ON}	$V_{CC} = -50\text{V}$, $I_C = -1\text{A}$		68		ns
	t_{OFF}	$I_{B1} = -100\text{mA}$, $I_{B2} = 100\text{mA}$		1030		ns

Note: Pulse test: $t_P \leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

■ CLASSIFICATION OF h_{FE3}

RANK	A	B
RANGE	28~75	75(MIN.)

TYPICAL CHARACTERISTICS



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