



UNISONIC TECHNOLOGIES CO., LTD

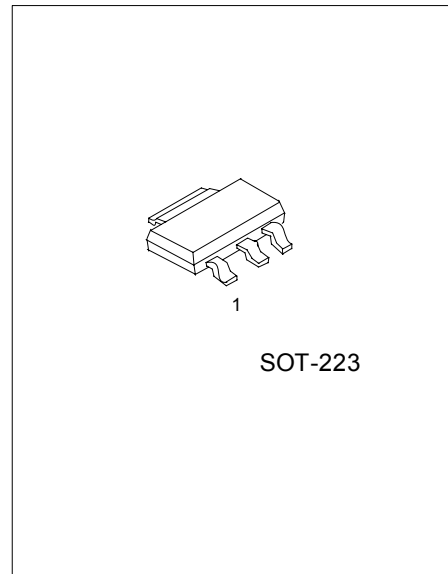
UP1855

PNP SILICON TRANSISTOR

HIGH CURRENT TRANSISTOR

■ FEATURES

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



*Pb-free plating product number: UP1855L

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
UP1855-x-AA3-R	UP1855L-x-AA3-R	SOT-223	B	C	E	Tape Reel

<p>UP1855L-x-AA3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Lead Plating</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223 (3) refer to Classification of h_{FE2} (4) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V_{CB0}	-180	V
Collector -Emitter Voltage	V_{CEO}	-140	V
Emitter -Base Voltage	V_{EBO}	-6	V
Collector Current (Pulse)	I_{CM}	-10	A
Collector Current (DC)	I_C	-4	A
Power Dissipation	P_D	1	W
Junction Temperature	T_J	+150	
Storage Temperature	T_{STG}	-40 ~ +150	

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 (Ta = 25 °C, unless otherwise specified)

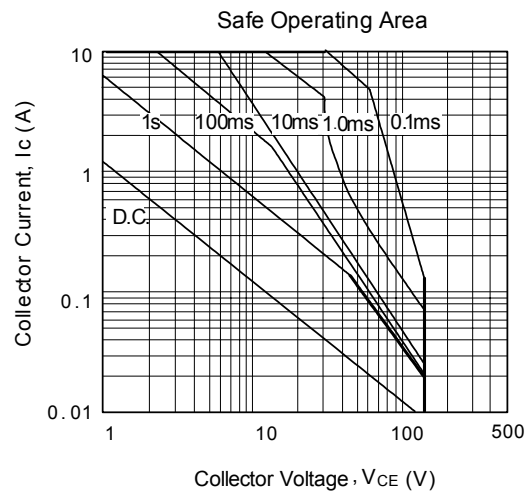
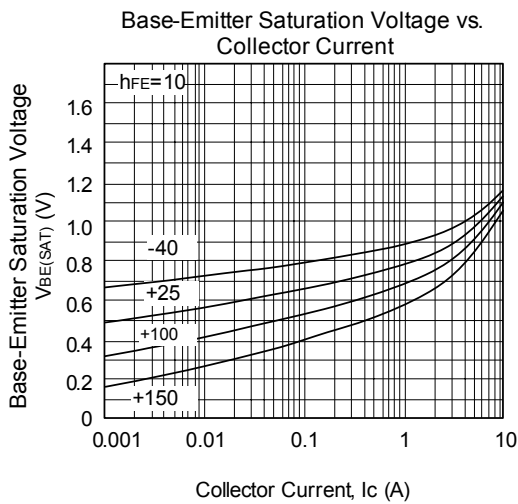
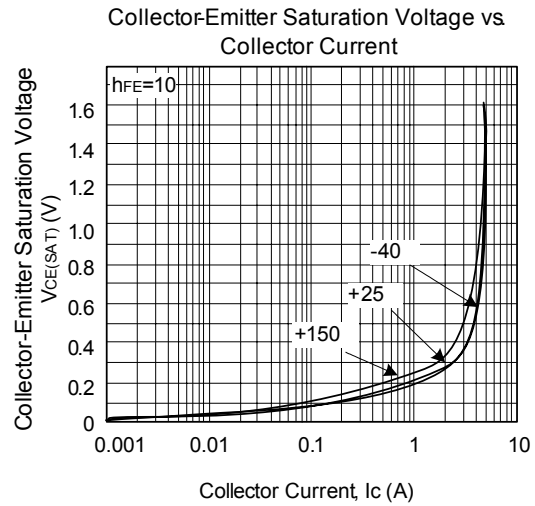
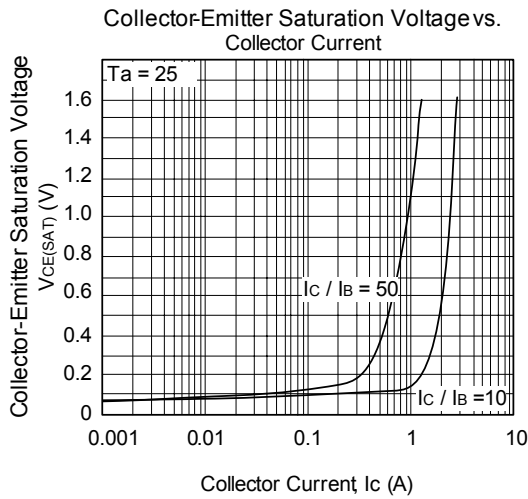
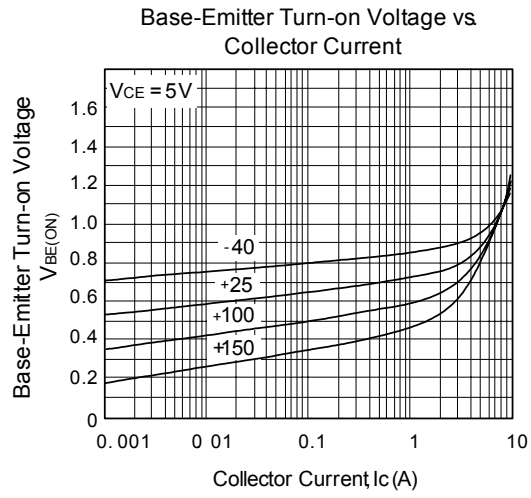
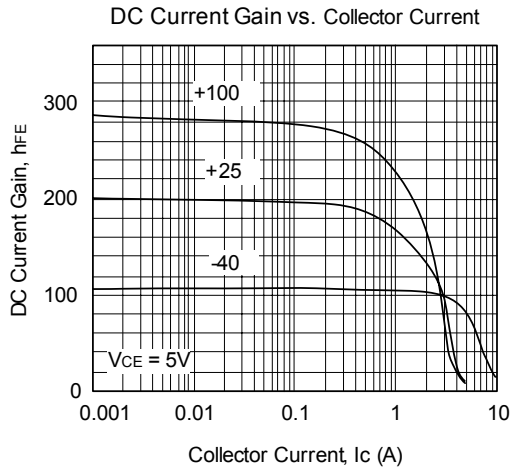
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = -100\mu A$	-180	-210		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10mA$	-140	-170		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu A$	-6	-8		V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -150V$ $V_{CB} = -150V, T_a = 100^\circ C$			-50 -1	nA μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6V$			-10	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -100mA, I_B = -5mA$ $I_C = -500mA, I_B = -50mA$ $I_C = -1A, I_B = -100mA$ $I_C = -3A, I_B = -300mA$		-30 -70 -110 -275	-60 -120 -150 -370	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -3A, I_B = -300mA$		-970	-1110	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$I_C = -3A, V_{CE} = -5V$		-830	-950	mV
DC Current Gain	h_{FE1}	$I_C = -10mA, V_{CE} = -5V$	100	200		
	h_{FE2}	$I_C = -1A, V_{CE} = -5V$	100		300	
	h_{FE3}	$I_C = -3A, V_{CE} = -5V$	75	140		
	h_{FE4}	$I_C = -10A, V_{CE} = -5V$		10		
Transition Frequency	f_T	$I_C = -100mA, V_{CE} = -10V, f = 50MHz$		110		MHz
Output Capacitance	C_{ob}	$V_{CB} = -20V, f = 1MHz$		40		pF
Switching Times	t_{ON}	$I_C = -1A, V_{CC} = -50V$		68		ns
	t_{OFF}	$I_{B1} = -100mA, I_{B2} = 100mA$		1030		ns

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

■ CLASSIFICATION OF h_{FE2}

RANK	A	B
RANGE	100 ~ 200	180 ~ 300

TYPICAL CHARACTERISTICS



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