



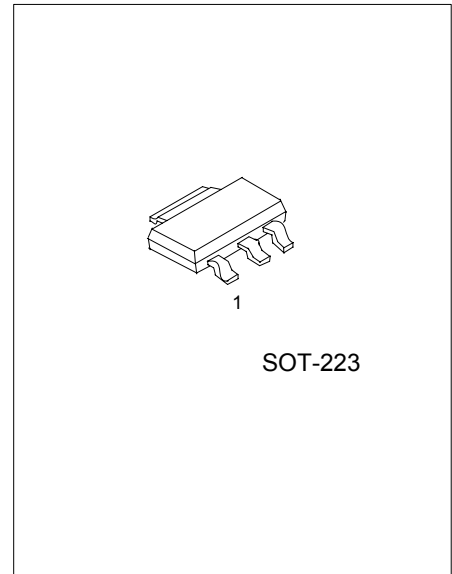
UP1851

PNP SILICON TRANSISTOR

HIGH CURRENT (HIGH PERFORMANCE) TRANSISTORS

■ FEATURES

- * 5 A continuous current , up to 15 A peak current
- * Very low saturation voltages
- * Excellent gain characteristics specified up to 10A
- * $P_D = 3W$



*Pb-free plating product number: UP1851L

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
UP1851-AA3-R	UP1851L-AA3-R	SOT-223	B	C	E	Tape Reel
UP1851-AA3-T	UP1851L-AA3-T	SOT-223	B	C	E	Tube

<p>UP1851L-AA3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) AA3: SOT-223</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-6	V
Peak Pulse Current	I_{CM}	-15	A
Continuous Collector Current	I_C	-5	A
Power Dissipation ($T_a=25^\circ\text{C}$)	P_D	3	W
Junction Temperature	T_J	+150	
Storage Temperature	T_{STG}	-55 ~ +150	

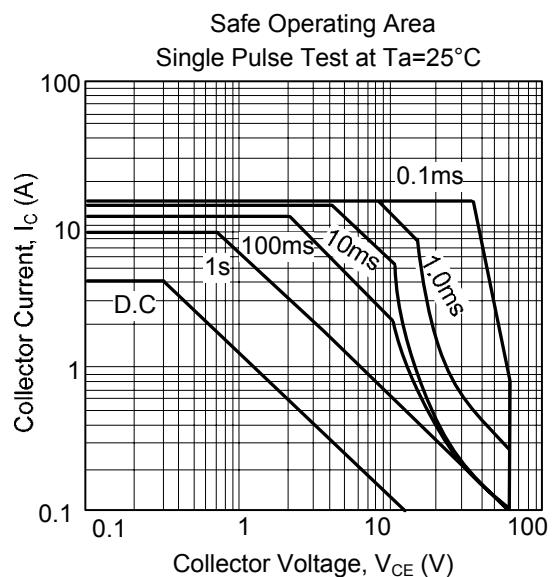
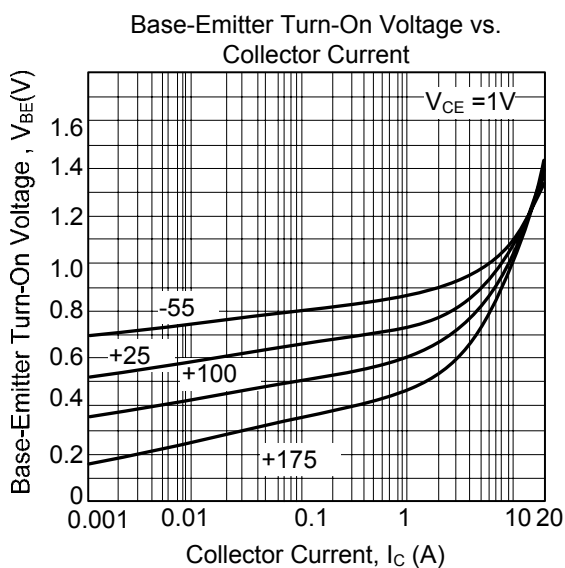
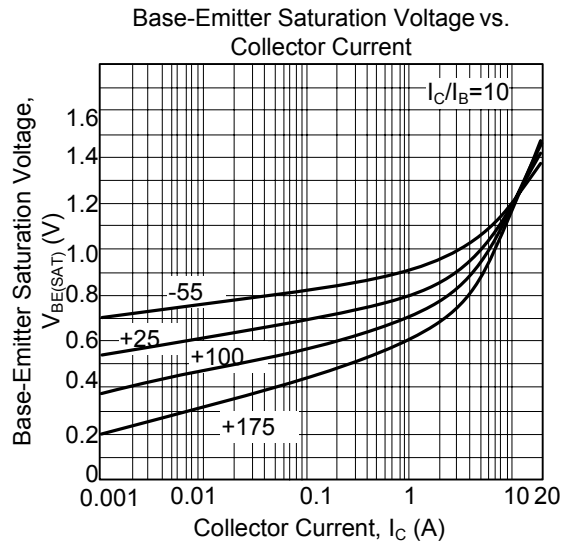
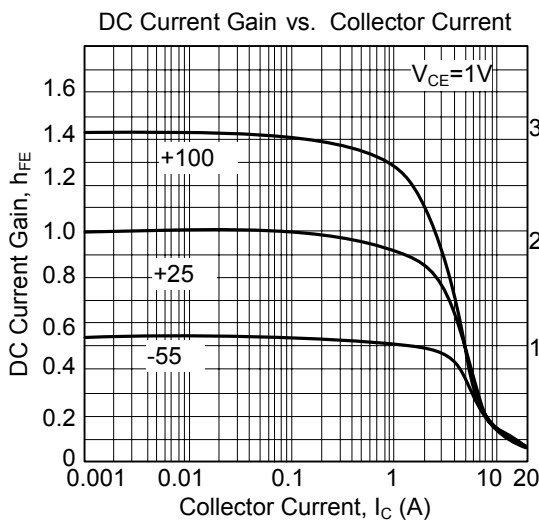
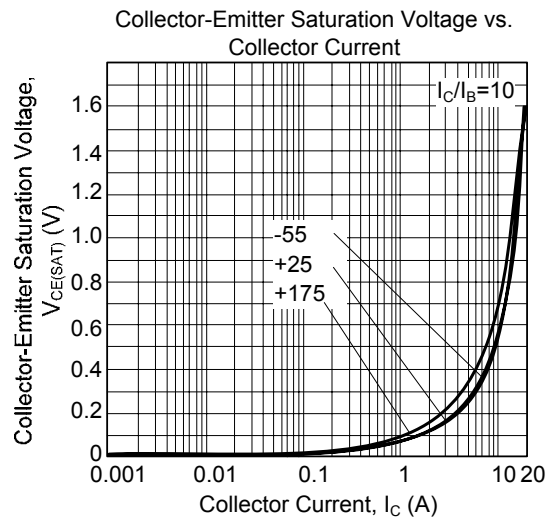
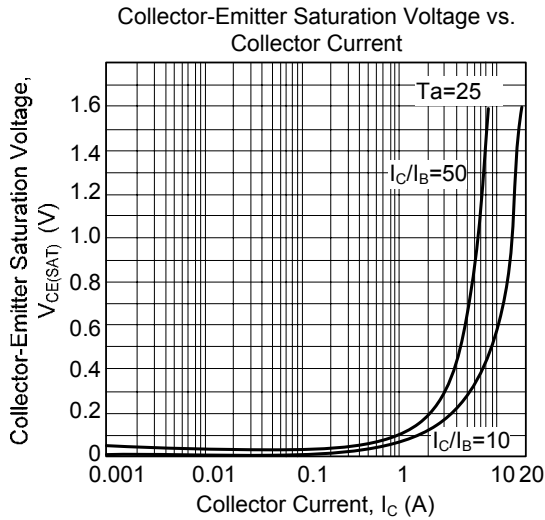
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-100\mu\text{A}$	-100	-140		V
Collector-Emitter Breakdown Voltage	BV_{CER}	$I_C=-1\mu\text{A}$, $R_B = 1\text{k}\Omega$	-100	-140		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=-10\text{mA}$ (Note)	-60	-90		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=-100\mu\text{A}$	-6	-8		V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-80\text{V}$			-150	nA
Collector Cut-Off Current	I_{CER}	$V_{CB}=-80\text{V}$, $R_s \leq 1\text{k}\Omega$			-150	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-6\text{V}$			-50	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$ (Note)	$I_C=-100\text{mA}$, $I_B=-10\text{mA}$ $I_C=-1\text{A}$, $I_B=-100\text{mA}$ $I_C=-2\text{A}$, $I_B=-200\text{mA}$ $I_C=-5\text{A}$, $I_B=-500\text{mA}$		-20 -85 -155 -370	-50 -140 -210 -460	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-5\text{A}$, $I_B=-500\text{mA}$ (Note)		-1080	-1240	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$I_C=-5\text{A}$, $V_{CE}=-1\text{V}$ (Note)		-935	-1070	mV
DC Current Gain	h_{FE} (Note)	$I_C=-10\text{mA}$, $V_{CE}=-1\text{V}$ $I_C=-2\text{A}$, $V_{CE}=-1\text{V}$ $I_C=-5\text{A}$, $V_{CE}=-1\text{V}$ $I_C=-10\text{A}$, $V_{CE}=-1\text{V}$	100 100 75 10	200 200 90 25	300	
Transition Frequency	f_T	$I_C=-100\text{mA}$, $V_{CE}=-10\text{V}$, $f=50\text{MHz}$		120		MHz
Output Capacitance	C_{obo}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$		74		pF
Switching Times	t_{ON} t_{OFF}	$I_C=-2\text{A}$, $I_{B1}=-200\text{mA}$ $I_{B2}=200\text{mA}$, $V_{CC}=-10\text{V}$		82 350		ns

Note: Pulse width=300 μs . Duty cycle 2%

TYPICAL CHARACTERISTICS



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