



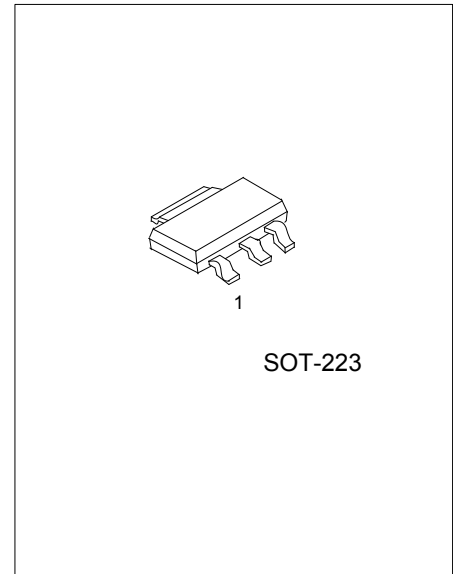
UP1851

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
- * $P_D = 3W$



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UP1851L-AA3-R	UP1851G-AA3-R	SOT-223	B	C	E	Tape Reel

<p>UP1851L-AA3-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223 (3) G: Halogen Free, L: Lead Free</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	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

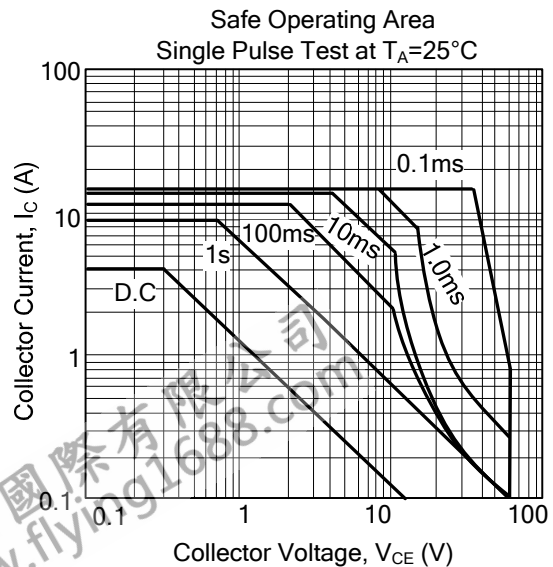
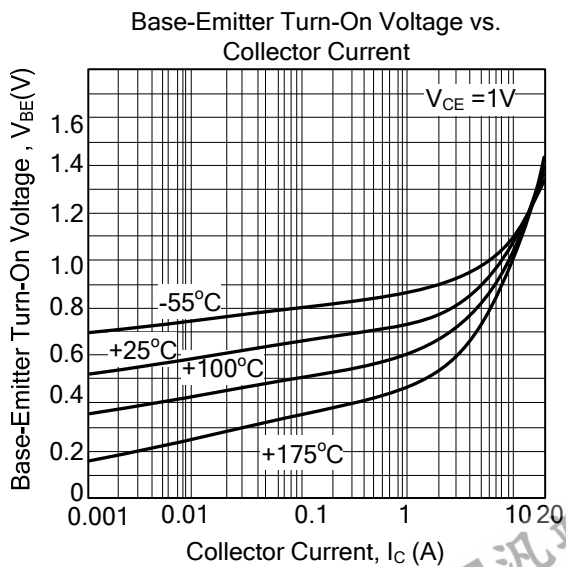
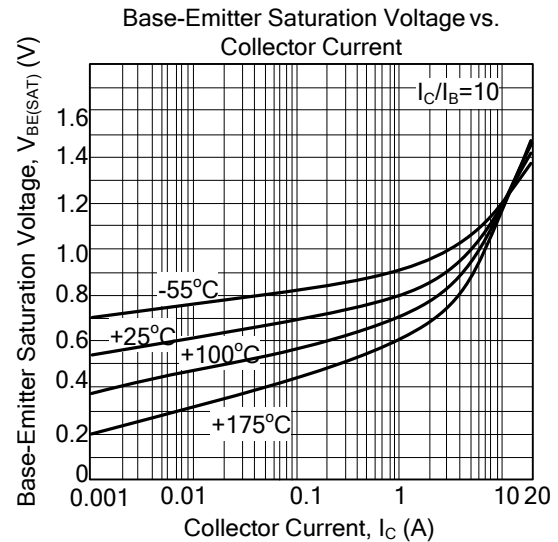
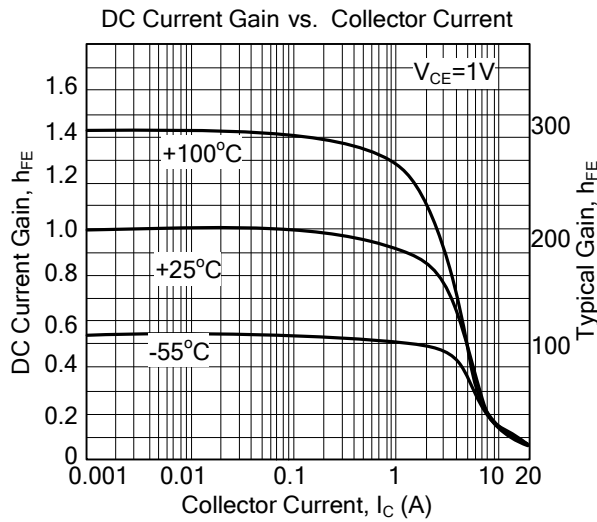
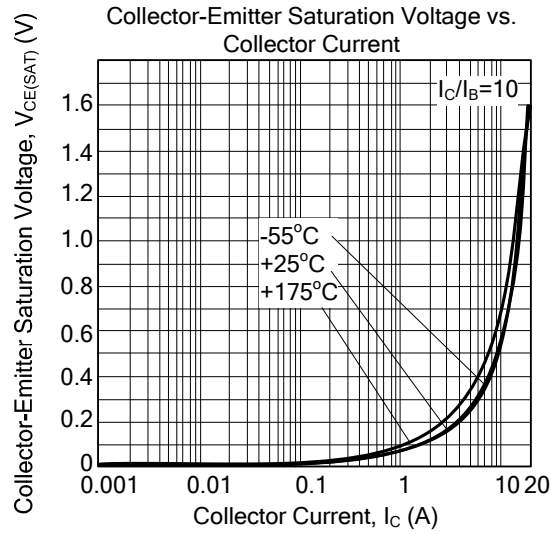
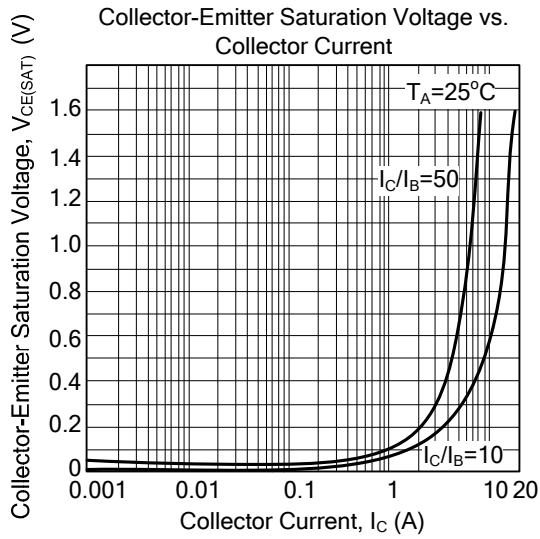
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-100\mu\text{A}$	-100	-140		V
Collector-Emitter Breakdown Voltage	BV_{CER}	$I_C=-1\mu\text{A}, R_B \leq 1\text{K}\Omega$	-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 (Note)	$V_{CE(SAT)}$	$I_C=-100\text{mA}, I_B=-10\text{mA}$		-20	-50	mV
		$I_C=-1\text{A}, I_B=-100\text{mA}$		-85	-140	
		$I_C=-2\text{A}, I_B=-200\text{mA}$		-155	-210	
		$I_C=-5\text{A}, I_B=-500\text{mA}$		-370	-460	
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 (Note)	h_{FE}	$I_C=-10\text{mA}, V_{CE}=-1\text{V}$	100	200		
		$I_C=-2\text{A}, V_{CE}=-1\text{V}$	100	200	300	
		$I_C=-5\text{A}, V_{CE}=-1\text{V}$	75	90		
		$I_C=-10\text{A}, V_{CE}=-1\text{V}$	10	25		
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}	$I_C=-2\text{A}, I_{B1}=-200\text{mA}$		82		ns
	t_{OFF}	$I_{B2}=200\text{mA}, V_{CC}=-10\text{V}$		350		

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

TYPICAL CHARACTERISTICS



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