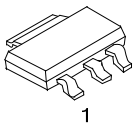
UP1856

PNP SILICON TRANSISTOR

HIGH CURRENT TRANSISTOR



SOT-223

■ 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

UP1856L-AA3-R

(1) Packing Type
(2) Package Type
(3) Lead Free

(1) R: Tape Reel
(2) AA3:SOT-223
(3) G: Halogen Free, L: Lead Free

■ 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 Ta=25°C	P_D	1	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-40 ~ +150	°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.

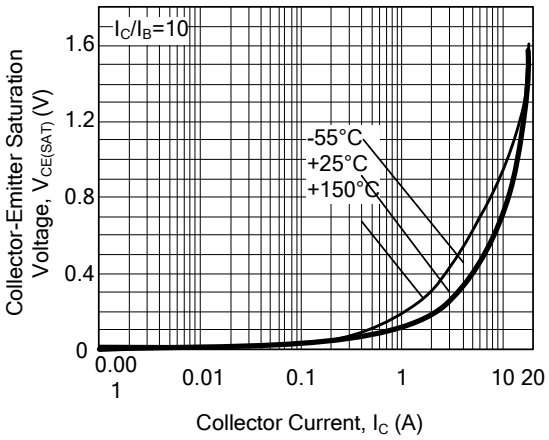
■ ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

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

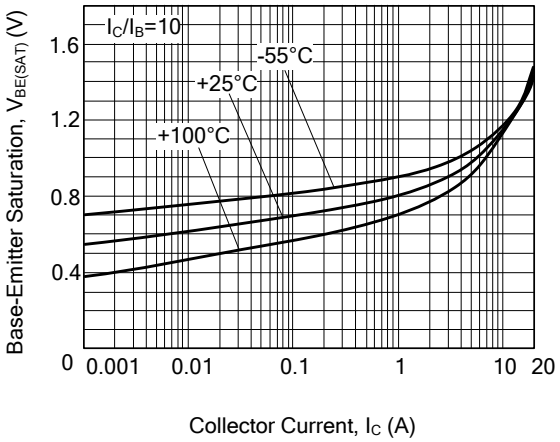
Note: Pulsed test: duty cycle ≤ 2%, t_P =300μs.

■ TYPICAL CHARACTERISTICS

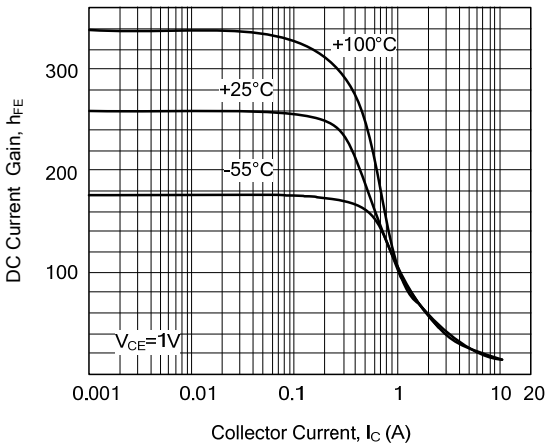
Collector-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Saturation vs. Collector Current



DC Current Gain vs. Collector Current



Base-Emitter Turn-on Voltage vs Collector Current