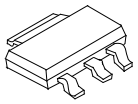
UP1855

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
		1	2	3	
UP1855G-x-AA3-R	SOT-223	B	C	E	Tape Reel

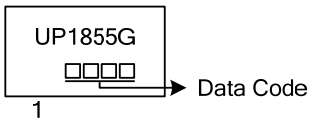
Note: Pin Assignment: E: Emitter B: Base C: Case

UP1855G-x-AA3-R

(1)Packing Type
(2)Package Type
(3)Rank
(4)Green Package

(1) R: Tape Reel
(2) AA3:SOT-223
(3) x: refer to Classification of h_{FE2}
(4) G: Halogen Free and Lead Free

■ MARKING



■ ABSOLUATE MAXIUM RATINGS (T_A= 25°C, unless otherwise specified)

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°C) (Note 2)	P_D	3	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Notes: 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°C, unless otherwise specified)

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

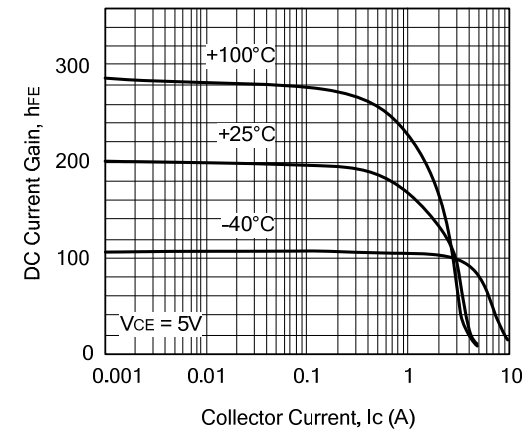
Note: Pulse test: t_P ≤300μs, Duty cycle ≤2%

■ CLASSIFICATION OF h_{FE3}

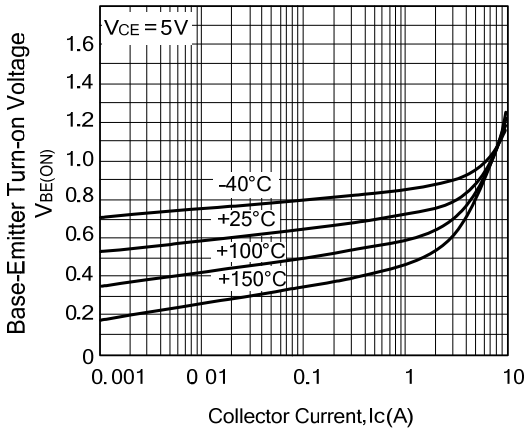
RANK	A	B
RANGE	28~75	75 (MIN.)

■ TYPICAL CHARACTERISTICS

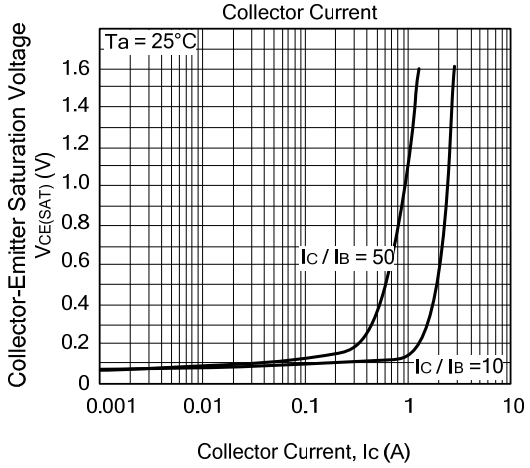
DC Current Gain vs. Collector Current



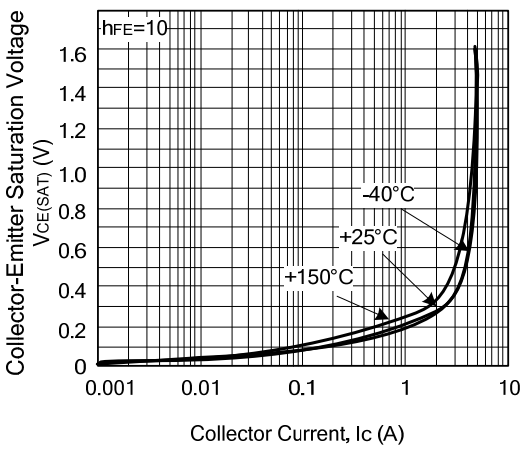
Base-Emitter Turn-on Voltage vs. Collector Current



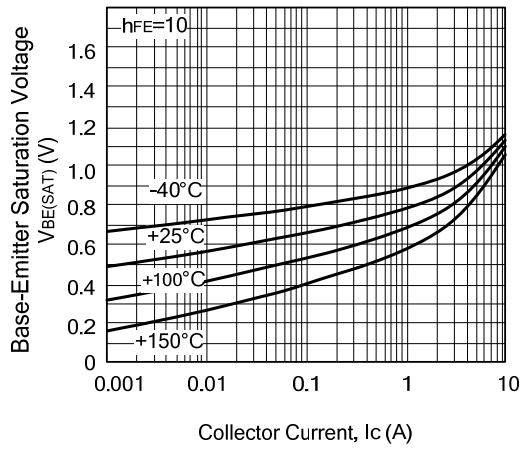
Collector-Emitter Saturation Voltage vs. Collector Current



Collector-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Saturation Voltage vs. Collector Current



Safe Operating Area