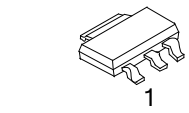
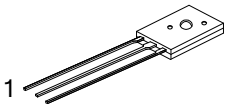
UP1855A

PNP SILICON TRANSISTOR

HIGH CURRENT TRANSISTOR



SOT-223



TO-126

■ 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	
-	UP1855AG-x-AA3-R	SOT-223	B	C	E	Tape Reel
UP1855AL-x-T60-K	UP1855AG-x-T60-K	TO-126	E	C	B	Bulk

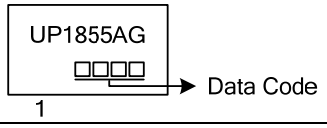
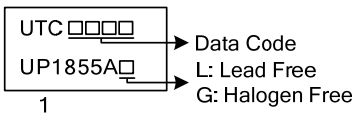
Note: Pin Assignment: E: Emitter B: Base C: Case

UP1855AG-x-AA3-R

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

(1) R: Tape Reel, B: Bulk
(2) AA3: SOT-223, T60: TO-126
(3) x: refer to Classification of h_{FE3}
(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-223	TO-126
	

■ 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}	-170	V
Emitter -Base Voltage		V_{EBO}	-6	V
Collector Current (Pulse)		I_{CM}	-10	A
Collector Current (DC)		I_C	-4	A
Power Dissipation	SOT-223	P_D	1	W
	TO-126		1	
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-Base Breakdown Voltage	BV_{CBO}	I_C = -100μA	-180	-210		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C = -10mA	-170			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E = -100μA	-6	-8		V
Collector Cut-off Current	I_{CBO}	V_{CB}=-150V			-50	nA
		V_{CB}=-150V, Ta=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		-30	-60	mV
		I_C=-500mA, I_B=-50mA		-70	-120	mV
		I_C=-1A, I_B=-100mA		-110	-150	mV
		I_C=-3A, I_B=-300mA		-275	-550	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	28	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	Cob	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

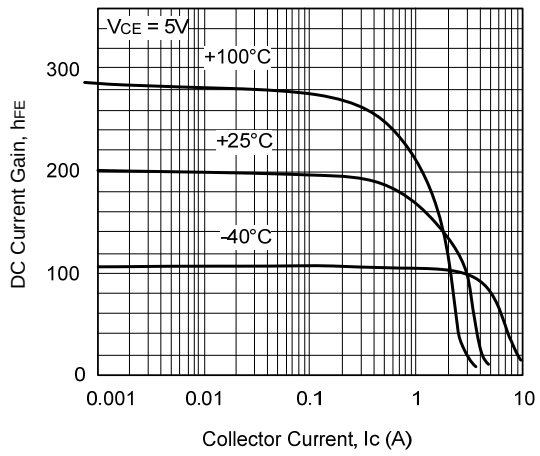
Note: Pulse test: $t_P \leq 300\mu s$, Duty cycle ≤2%

■ CLASSIFICATION OF h_{FE3}

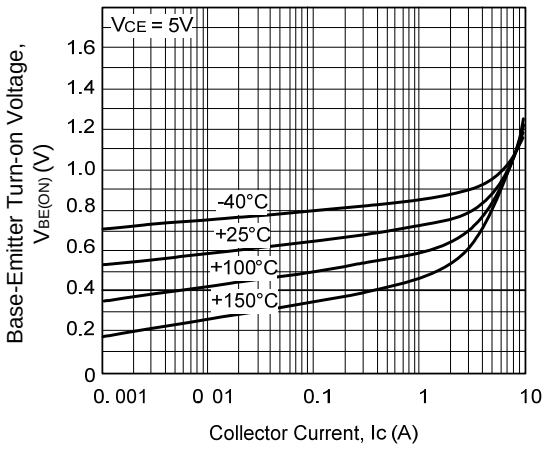
RANK	A	B
RANGE	28~75	75(MIN.)

■ TYPICAL CHARACTERISTICS

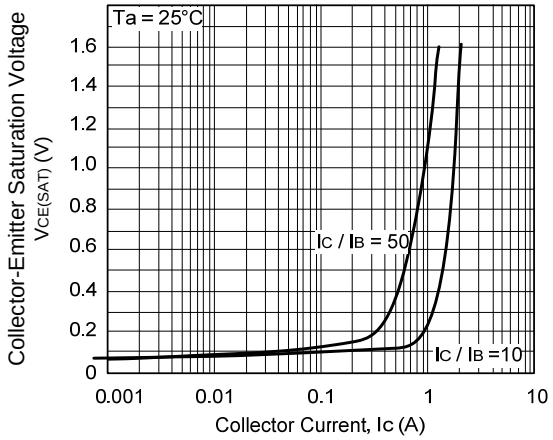
DC Current Gain vs. Collector Current



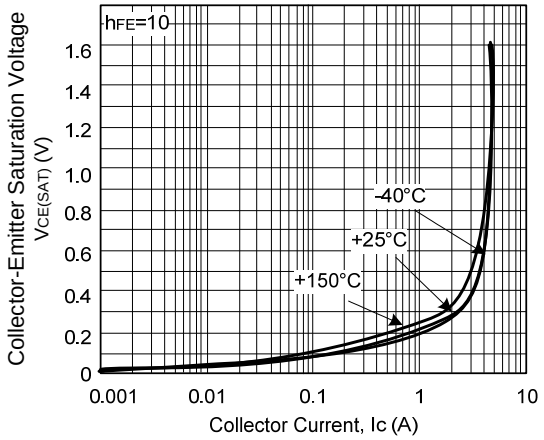
Base-Emitter Turn-on Voltage vs. Collector Current



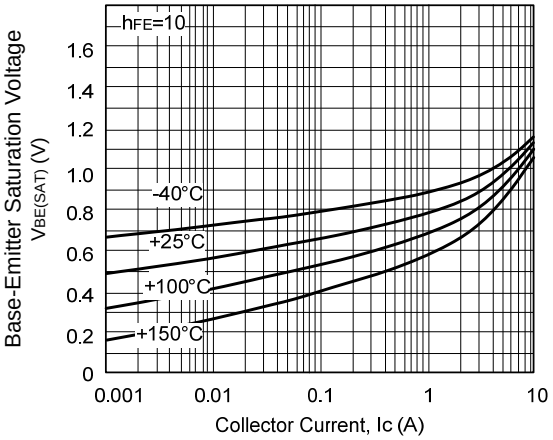
Collector-Emitter Saturation Voltage vs. Collector Current



Collector-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Saturation Voltage vs. Collector Current



Safe Operating Area