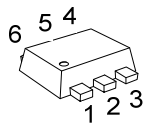
BC845AS

NPN SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATION

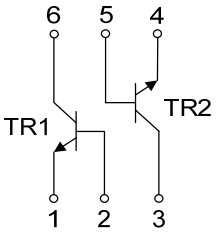


SOT-563

■ FEATURES

* Suitable for automatic insertion in thick and thin-film circuits.

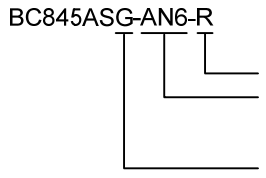
■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

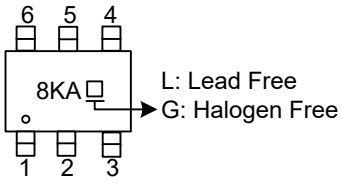
Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BC84ASL-AN6-R	BC845ASG-AN6-R	SOT-563	E1	B1	C2	E2	B2	C1	Tape Reel

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



(1) R: Tape Reel
(2) AN6: SOT-563
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

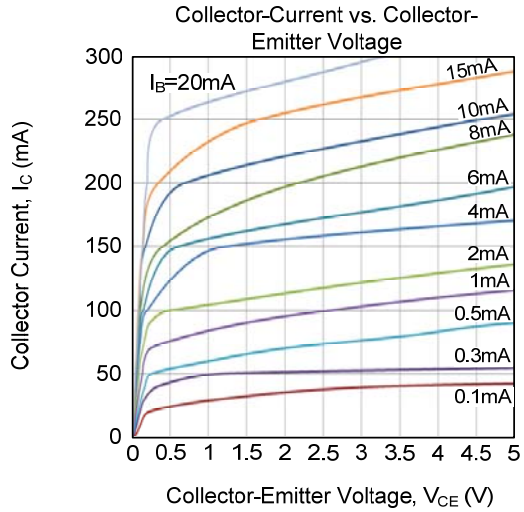
PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	100	V
Collector-Emitter Voltage		V_{CEO}	80	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current (DC)	Continuous	I_C	100	mA
	Peak	I_{CM}	300	mA
Collector Dissipation (Note 2)		P_D	150	mW
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

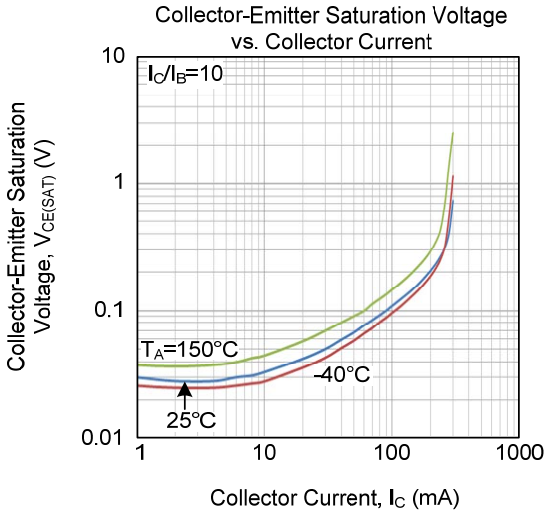
Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Transistor mounted on an FR4 printed-circuit board.

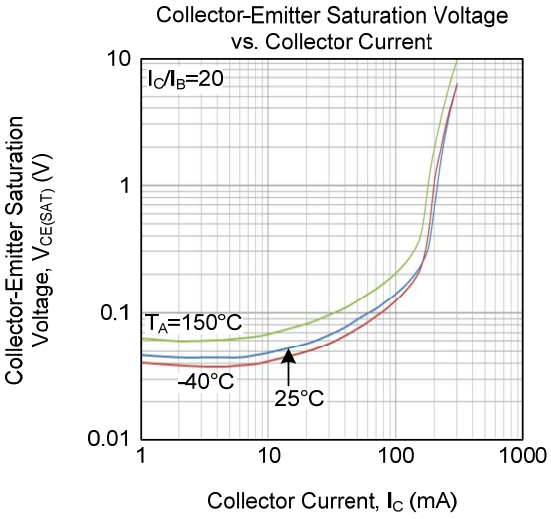
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

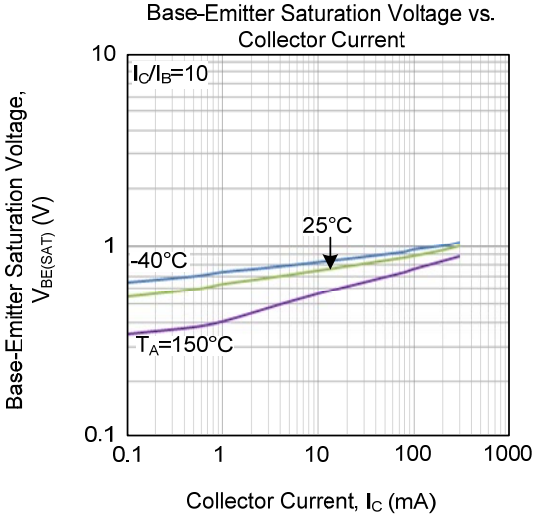
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=10μA, I_E=0	100			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=2mA, I_B=0	80			V
Collector-Emitter Breakdown Voltage	BV_{CES}	I_C=2mA, V_{BE}=0V	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V, I_E=0			15	nA
Collector Cutoff Current	I_{CEO}	V_{CE}=40V, I_B=0			100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			100	nA
DC Current Gain	h_{FE}	V_{CE}=5.0V, I_C=2.0mA	400		800	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=10mA, I_B=0.5mA		50	200	mV
		I_C=100mA,I_B=5.0mA		140	400	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=10mA, I_B=0.5mA		730		mV
		I_C=100mA,I_B=5.0mA		875		mV
Base-Emitter On Voltage	$V_{BE(ON)}$	V_{CE}=5.0V, I_C=2.0mA	550	630	700	mV
		V_{CE}=5.0V, I_C=10mA			720	mV
Current Gain Bandwidth Product	f_T	V_{CE}=5.0V, I_C=10mA, f=100MHz		300		MHz
Output Capacitance	C_{OB}	V_{CB}=10V, I_E=0, f=1.0MHz		3		pF
Input Capacitance	C_{IB}	V_{EB}=0.5V, I_C=0, f=1.0MHz		10		pF
Noise Figure	NF	V_{CE}=5V, I_C=200μA, f=1KHz, R_G=2KΩ			10	dB

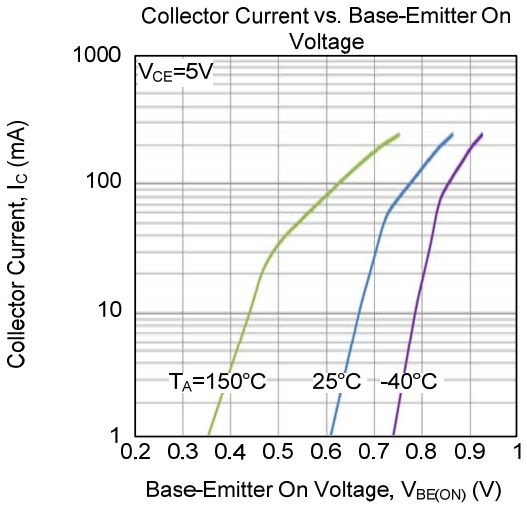
■ TYPICAL CHARACTERISTICS

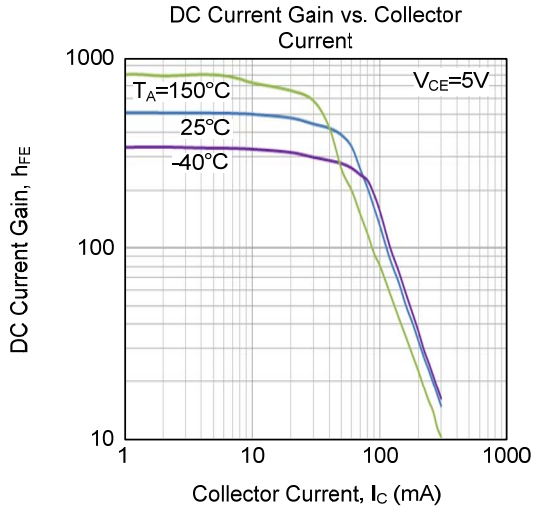












■ TYPICAL CHARACTERISTICS (Cont.)