

GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

### FEATURES

- High Voltage : BC846  $V_{CEO}=65V$ .
- For Complementary With PNP Type BC856/857/858.
- Suffix U : Qualified to AEC-Q101  
ex) BC846-A-RTK/PU

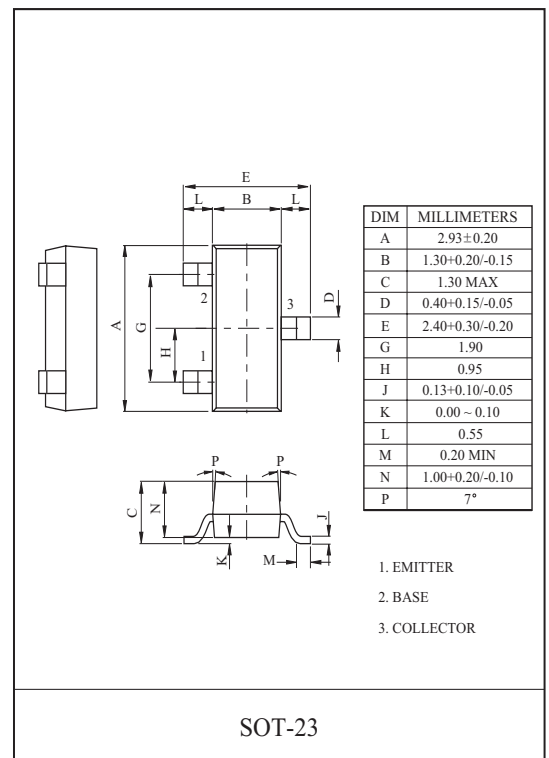
### MAXIMUM RATING (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BC846	$V_{CBO}$	80	V
	BC847		50	
	BC848		30	
Collector-Emitter Voltage	BC846	$V_{CEO}$	65	V
	BC847		45	
	BC848		30	
Emitter-Base Voltage	BC846	$V_{EBO}$	6	V
	BC847		6	
	BC848		5	
Collector Current	DC	$I_C$	100	mA
	PULSE	$I_{CP}$	200	
Base Current		$I_B$	20	mA
Emitter Current		$I_E$	-100	mA
Collector Power Dissipation		$P_C^*$	350	mW
Junction Temperature		$T_j$	150	
Storage Temperature Range		$T_{stg}$	-55 150	

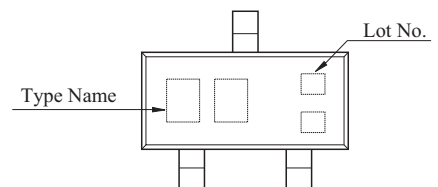
$P_C^*$  : Package Mounted On 99.5% Alumina  $10 \times 8 \times 0.6$ mm.

### MARK SPEC

TYPE	BC846A	BC846B	BC847A	BC847B	BC847C	BC848A	BC848B	BC848C
MARK	1A	1B	1E	1F	1G	1J	1K	1L



### Marking



# BC846/7/8

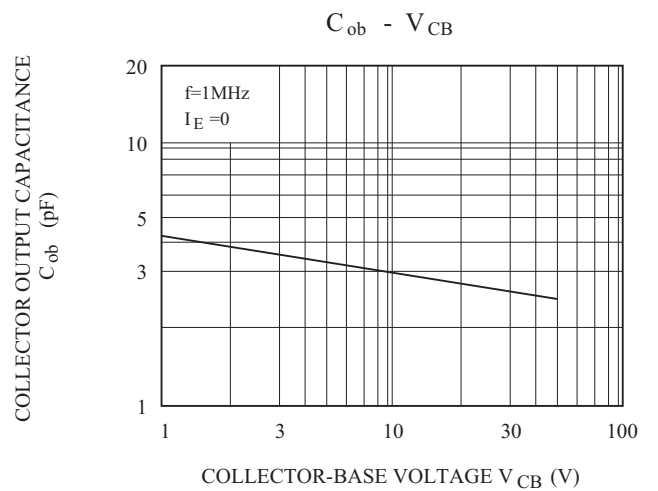
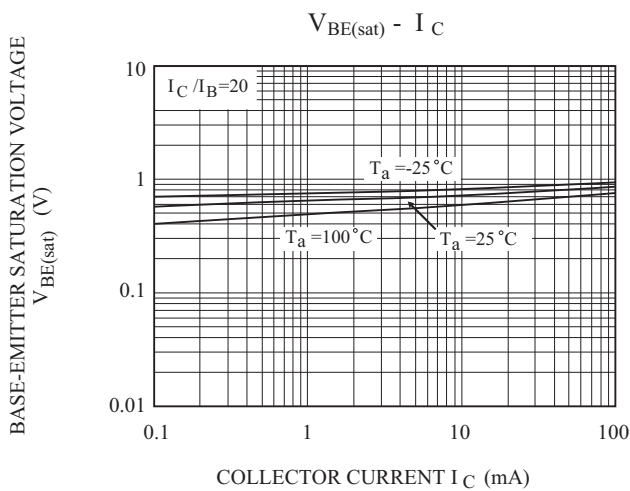
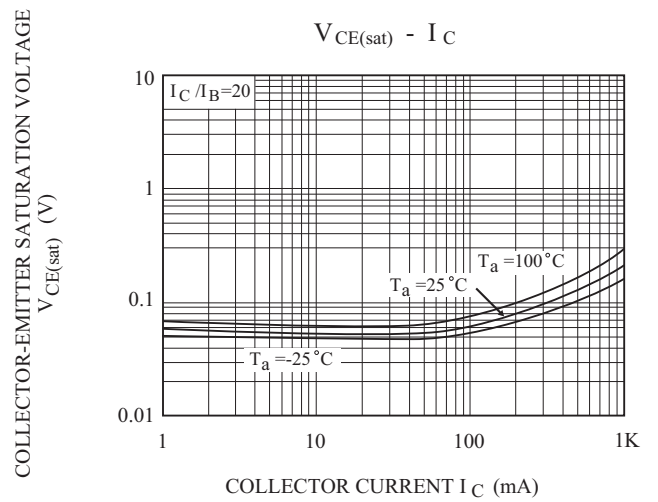
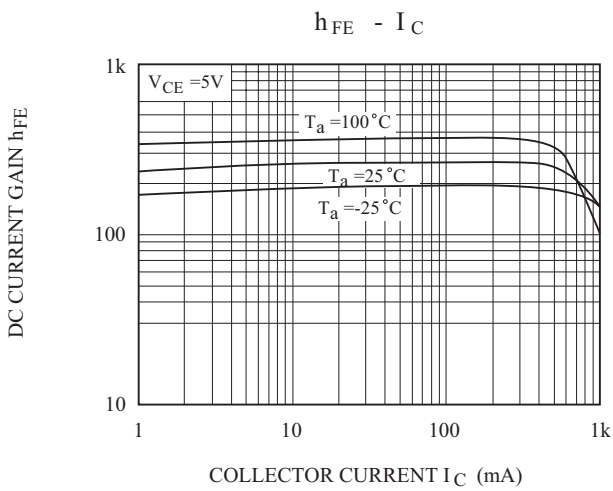
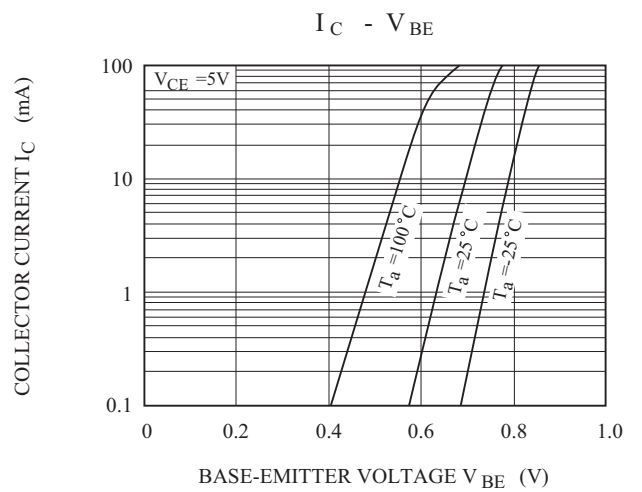
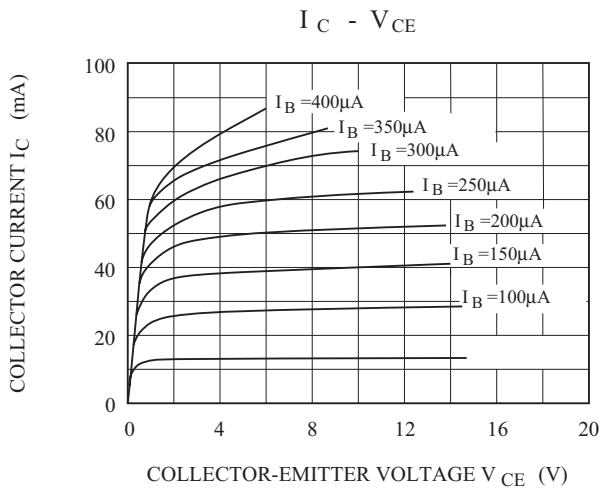
## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=30V, I_E=0$	-	-	15	nA
DC Current Gain (Note)	BC846	$h_{FE}$	$V_{CE}=5V, I_C=2mA$	110	-	450	
	BC847			110	-	800	
	BC848			110	-	800	
Collector-Emitter Saturation Voltage		$V_{CE(sat)1}$	$I_C=10mA, I_B=0.5mA$	-	0.09	0.25	V
		$V_{CE(sat)2}$	$I_C=100mA, I_B=5mA$	-	0.2	0.6	
Base-Emitter Saturation Voltage		$V_{BE(sat)1}$	$I_C=10mA, I_B=0.5mA$	-	0.7	-	V
		$V_{BE(sat)2}$	$I_C=100mA, I_B=5mA$	-	0.9	-	
Base-Emitter Voltage		$V_{BE(ON1)}$	$V_{CE}=5V, I_C=2mA$	0.58	-	0.7	V
		$V_{BE(ON2)}$	$V_{CE}=5V, I_C=10mA$	-	-	0.75	V
Transition Frequency		$f_T$	$V_{CE}=5V, I_C=10mA, f=100MHz$	-	300	-	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	2.5	4.5	pF
Noise Figure		NF	$V_{CE}=6V, I_C=0.1mA$ $R_g=10k\Omega, f=1kHz$	-	1.0	10	dB

NOTE : According to the value of  $h_{FE}$  the BC846, BC847, BC848 are classified as follows.

CLASSIFICATION		A	B	C
$h_{FE}$	BC846	110 220	200 450	-
	BC847	110 220	200 450	420 800
	BC848	110 220	200 450	420 800

# BC846/7/8



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