

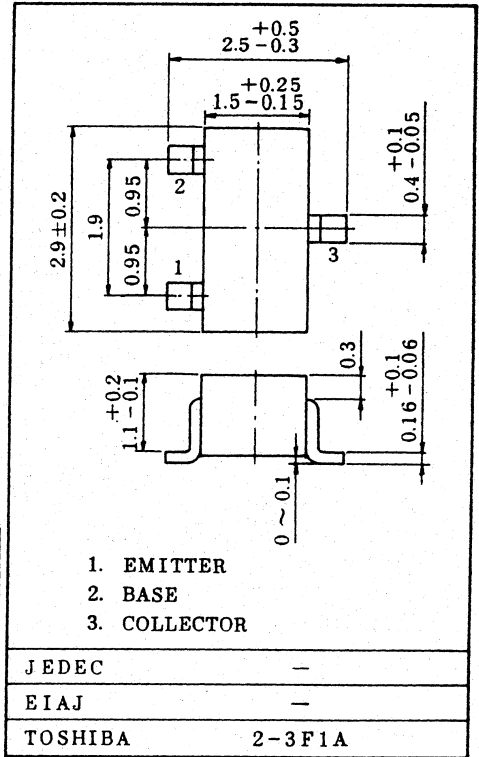
PRIMARILY INTENDED FOR USE IN DRIVER STAGE OF AUDIO AMPLIFIERS.

- . High  $V_{CEO}$  : 65V (TBC846)  
45V (TBC847)  
30V (TBC848)
- . High  $h_{FE}$  : 110~800
- . Low Noise

MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Breakdown Voltage	TBC846	80	V
	TBC847	50	
	TBC848	30	
Collector-Emitter Breakdown Voltage	TBC846	65	V
	TBC847	45	
	TBC848	30	
Emitter-Base Breakdown Voltage	TBC846	6	V
	TBC847	6	
	TBC848	5	
Collector Current	DC	$I_C$	mA
	Peak	$I_{CP}$	
Base Current (Peak)	$I_{BP}$	200	mA
Collector Power Dissipation	$P_C$	150	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$

Unit in mm



Weight : 0.012g

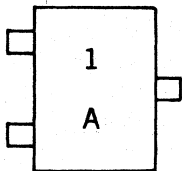
# TBC846~848

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V <sub>CB</sub> =30V, I <sub>E</sub> =0	-	-	15	nA
Emitter Cut-off Current	TBC846	IEBO	V <sub>EB</sub> =6V, I <sub>C</sub> =0	-	-	1	μA
	TBC847						
	TBC848						
Collector-Emitter Breakdown Voltage	TBC846	V(BR)CEO	I <sub>C</sub> =1mA, I <sub>B</sub> =0	65	-	-	V
	TBC847						
	TBC848						
DC Current Gain	TBC846	h <sub>FE</sub> (Note)	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	110	-	450	
	TBC847						
	TBC848						
Small Signal Current Gain		h <sub>fe</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA, f=1kHz	120	-	900	
Base-Emitter Voltage		V <sub>BE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	580	660	700	mV
			V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	-	-	770	
Collector-Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA	-	-	250	mV
			I <sub>C</sub> =100mA, I <sub>B</sub> =5mA	-	-	600	
Base-Emitter Saturation Voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA	-	720	-	mV
			I <sub>C</sub> =100mA, I <sub>B</sub> =5mA	-	900	-	
Knee Voltage		V <sub>CEK</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =Value, for Which I <sub>C</sub> =11mA, at V <sub>CE</sub> =1V	-	400	600	mV
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	-	300	-	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz	-	3.5	4.5	pF
Noise Figure		NF	V <sub>CE</sub> =5V, I <sub>C</sub> =0.2mA f=1kHz, R <sub>g</sub> =2kΩ	-	2	-	dB

Note: h<sub>FE</sub> Classification    A : 110~220  
                                       B : 200~450  
                                       C : 420~800

MARKING    ex. TBC846-A



	A	B	C
TBC846	1A	1B	
TBC847	1E	1F	1G
TBC848	1J	1K	1L