

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

TBC546

TBC547

TBC548

PRIMARILY INTENDED FOR USE IN DRIVER STAGE OF
AUDIO AMPLIFIERS.

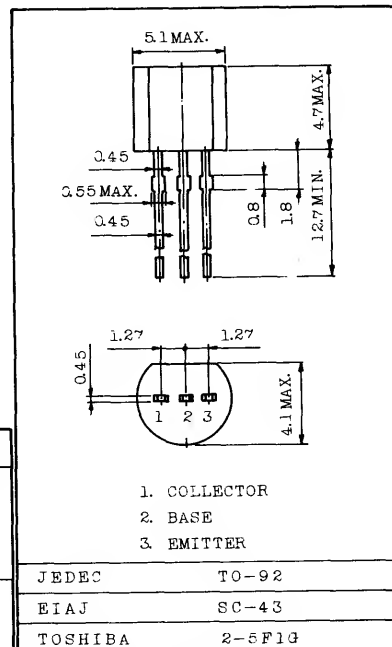
FEATURES:

- . High V_{CEO} : 65V (TBC546)
45V (TBC547)
30V (TBC548)
- . High h_{FE} : 110 ~ 800
- . Low Noise

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Breakdown Voltage	TBC546	80	V
	TBC547	50	
	TBC548	30	
Collector-Emitter Breakdown Voltage	TBC546	65	V
	TBC547	45	
	TBC548	30	
Emitter-Base Breakdown Voltage	TBC546	6	V
	TBC547	6	
	TBC548	5	
Collector Current	DC	I_C	mA
	Peak	I_{CP}	
Base Current (Peak)	I_{BP}	200	mA
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-65 ~ 150	$^{\circ}\text{C}$

Unit in mm



Weight : 0.21g

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ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =30V, I _E =0	-	-	15	nA
Emitter Cut-off Current	TBC546 TBC547	I _{EBO}	V _{EB} =6V, I _C =0	-	-	1	μA
	TBC548		V _{EB} =5V, I _C =0	-	-	1	
Collector-Emitter Breakdown Voltage	TBC546	V(BR)CEO	I _C =1mA, I _B =0	65	-	-	V
	TBC547			45	-	-	
	TBC548			30	-	-	
DC Current Gain		h _{FE} (Note)	V _{CE} =5V, I _C =2mA	110	-	800	
Small Signal Current Gain		h _{fe}	V _{CE} =5V, I _C =2mA, f=1kHz	120	-	900	
Base-Emitter Voltage		V _{BE}	V _{CE} =5V, I _C =2mA	580	660	700	mV
			V _{CE} =5V, I _C =10mA	-	-	770	
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =10mA, I _B =0.5mA	-	-	250	mV
			I _C =100mA, I _B =5mA	-	-	600	
Base-Emitter Saturation Voltage		V _{BE(sat)}	I _C =10mA, I _B =0.5mA	-	720	-	mV
			I _C =100mA, I _B =5mA	-	900	-	
Knee Voltage		V _{CEK}	I _C =10mA, I _B =Value, for Which I _C =11mA, at V _{CE} =1V	-	400	600	mV
Transition Frequency		f _T	V _{CE} =5V, I _C =10mA	-	300	-	MHz
Collector Output Capacitance		C _{ob}	V _{CB} =10V, f=1MHz	-	3.5	4.5	pF
Noise Figure		NF	V _{CE} =5V, I _C =0.2mA, f=1kHz, R _g =2kΩ	-	2	10	dB

Note: h_{FE} Classification 546-A , 547-A , 548-A : 110 ~ 220
 546-B , 547-B , 548-B : 200 ~ 450
 546-C , 547-C , 548-C : 420 ~ 800