DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

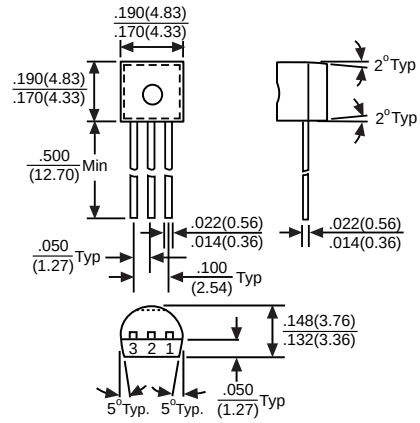
BC547

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

Designed for use in driver stage of audio amplifier.

TO-92



Dimensions in inches and (millimeters)

Pinning

1 = Collector
2 = Base
3 = Emitter

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_D	500	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Volatge	BV_{CBO}	50	-	-	V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage	BV_{CEO}	45	-	-	V	I_C=1mA, I_B=0
Emitter-Base Breakdown Volatge	BV_{EBO}	6	-	-	V	I_E=10μA, I_C=0
Collector Cutoff Current	I_{CBO}	-	-	15	nA	V_{CB}=30V, I_E=0
Collector-Emitter Saturation Voltage(1)	$V_{CE(sat)1}$	-	-	0.25	V	I_C=10mA, I_B=0.5mA
	$V_{CE(sat)2}$	-	-	0.6	V	I_C=100mA, I_B=5mA
Base-Emitter Saturation Voltage(1)	$V_{BE(sat)1}$	-	0.7	-	V	I_C=10mA, I_B=0.5mA
	$V_{BE(sat)2}$	-	0.9	-	V	I_C=100mA, I_B=5mA
Base-Emitter On Voltage	$V_{BE(on)1}$	0.58	-	0.7	V	I_C=2mA, V_{CE}=5V
	$V_{BE(on)2}$	-	-	0.77	V	I_C=10mA, V_{CE}=5V
DC Current Gain(1)	h_{FE}	110	-	800	-	I_C=2mA, V_{CE}=5V
Transition Frequency	f_T	-	300	-	MHz	I_C=10mA, V_{CE}=5V, f=100MHz
Output Capacitance	C_{ob}	-	-	4.5	pF	V_{CE}=10V, f=1MHz, I_E=0

(1)Pulse Test: Pulse Width≦380μs, Duty Cycle≦2%

Classification of h_{FE}

Rank	A	B	C
Range	110~220	200~450	420~800