



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

BC238

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

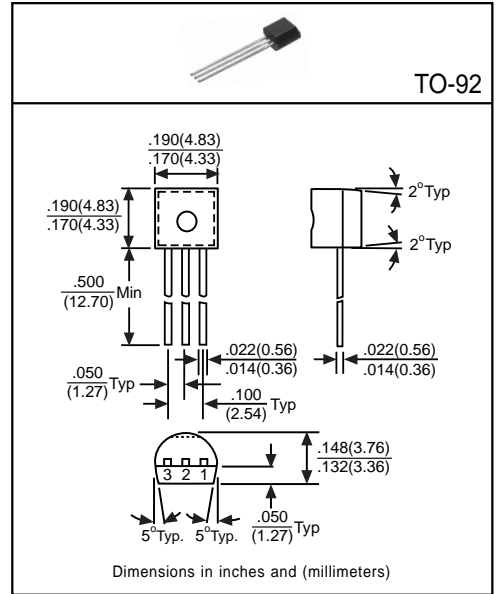
Designed for use in driver stage of audio amplifiers.

Pinning

- 1 = Collector
- 2 = Base
- 3 = Emitter

Absolute Maximum Ratings (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CES}	30	V
	V _{CEO}	25	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	100	mA
Total Power Dissipation	P _D	350	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-Emitter Breakdown Voltage	BV _{CES}	30	-	-	V	I _C =100μA, V _{EB} =0
	BV _{CEO}	25	-	-	V	I _C =2mA, I _B =0
Emitter-Base Breakdown Voltage	BV _{EBO}	5	-	-	V	I _E =100μA, I _C =0
Collector Cutoff Current	I _{CES}	-	-	15	nA	V _{CB} =30V, I _E =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)1}	-	-	0.2	V	I _C =10mA, I _B =0.5mA
	V _{CE(sat)2}	-	-	0.8	V	I _C =100mA, I _B =5mA
Base-Emitter Saturation Voltage ⁽¹⁾	V _{BE(sat)1}	-	-	1.05	V	I _C =100mA, I _B =5mA
	V _{BE(sat)2}	-	-	0.83	V	I _C =10mA, I _B =0.5mA
Base-Emitter On Voltage ⁽¹⁾	V _{BE(on)}	0.55	-	0.7	V	I _C =2mA, V _{CE} =5V
DC Current Gain ⁽¹⁾	h _{FE}	180	-	800	-	I _C =2mA, V _{CE} =5V
Transition Frequency	f _T	150	-	-	MHz	I _C =10mA, V _{CE} =5V, f=100MHz
Output Capacitance	C _{ob}	-	-	4.5	pF	V _{CB} =10V, I _E =0, f=1MHz

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

Classification of h_{FE}2

Rank	B	C
Range	180~460	300~800