



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SC1213

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

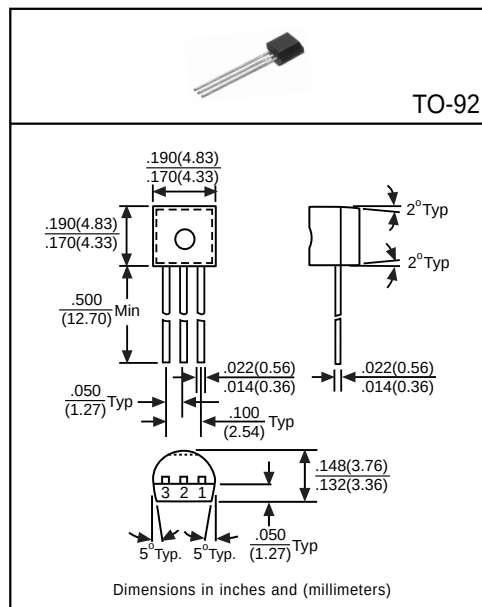
Designed for low frequency amplifier applications.

Pinning

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

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	50	V
Emitter-Base Voltage	V_{EB0}	4	V
Collector Current	I_C	500	mA
Total Power Dissipation	P_D	400	mW
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$



Electrical Characteristics

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CB0}	50	-	-	V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	50	-	-	V	$I_C=1\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	4	-	-	V	$I_E=10\mu\text{A}$, $I_C=0$
Collector Cutoff Current	I_{C0}	-	-	0.5	μA	$V_{CB}=20\text{V}$, $I_E=0$
Emitter Cutoff Current	I_{E0}	-	-	0.5	μA	$V_{EB}=5\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.6	V	$I_C=150\text{mA}$, $I_B=15\text{mA}$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-	1.2	V	$I_C=150\text{mA}$, $I_B=15\text{mA}$
DC Current Gain ⁽¹⁾	h_{FE1}	60	-	320	-	$I_C=10\text{mA}$, $V_{CE}=3\text{V}$
	h_{FE2}	35	-	-	-	$I_C=500\text{mA}$, $V_{CE}=3\text{V}$
Transition Frequency	f_T	100	160	-	MHz	$I_C=20\text{mA}$, $V_{CE}=6\text{V}$

(1) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE1}

Rank	B	C	D
Range	60~120	100~200	160~320