



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

S9015

TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR

Description

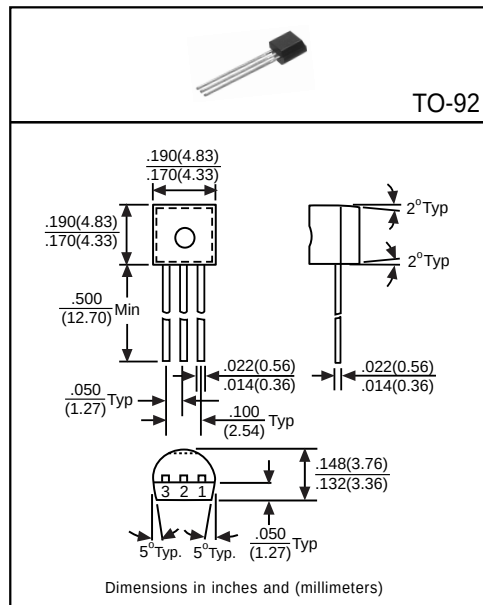
Designed for use in pre-amplifier of low level and low noise.

Pinning

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

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}	-45	V
Emitter-Base Voltage	V_{EB0}	-5	V
Collector Current	I_C	-100	mA
Total Power Dissipation	P_D	450	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}	-45	-	-	V	$I_C=-1\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	-5	-	-	V	$I_E=-100\mu\text{A}$, $I_C=0$
Collector Cutoff Current	I_{CBO}	-	-	-50	nA	$V_{CB}=-50\text{V}$, $I_E=0$
Emitter Cutoff Current	I_{EBO}	-	-	-50	nA	$V_{EB}=-5\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-0.2	-0.7	V	$I_C=-100\text{mA}$, $I_B=-5\text{mA}$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-0.82	-1	V	$I_C=-100\text{mA}$, $I_B=-5\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)}$	-0.6	-0.65	-0.75	V	$I_C=-2\text{mA}$, $V_{CE}=-5\text{V}$
DC Current Gain ⁽¹⁾	h_{FE}	60	-	1000	-	$I_C=-1\text{mA}$, $V_{CE}=-5\text{V}$
Transition Frequency	f_T	100	190	-	MHz	$I_C=-10\text{mA}$, $V_{CE}=-5\text{V}$
Output Capacitance	C_{ob}	-	4.5	7	pF	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$, $I_E=0$

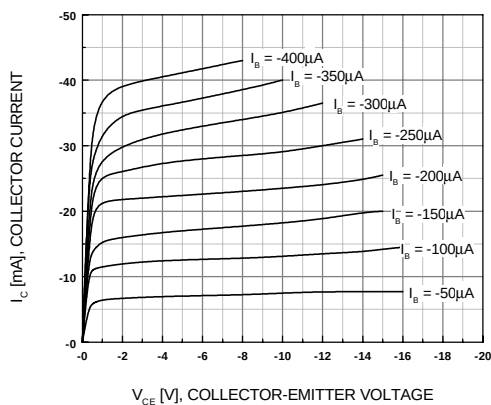
(1) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE}

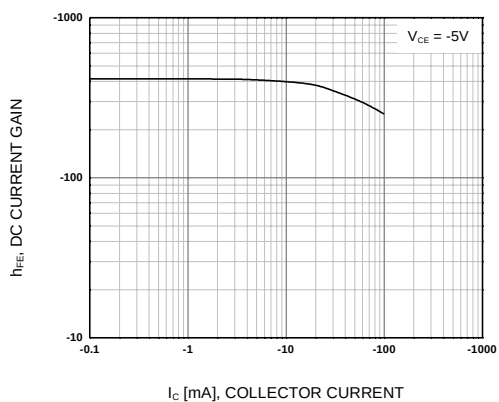
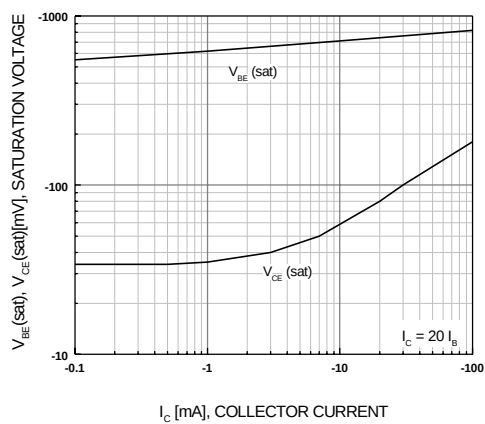
Rank	A	B	C	D
Range	60~150	100~300	200~600	400~1000

Electrical Characteristic Curves

Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current

Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Current Gain-Bandwidth Product

