



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DC9018

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

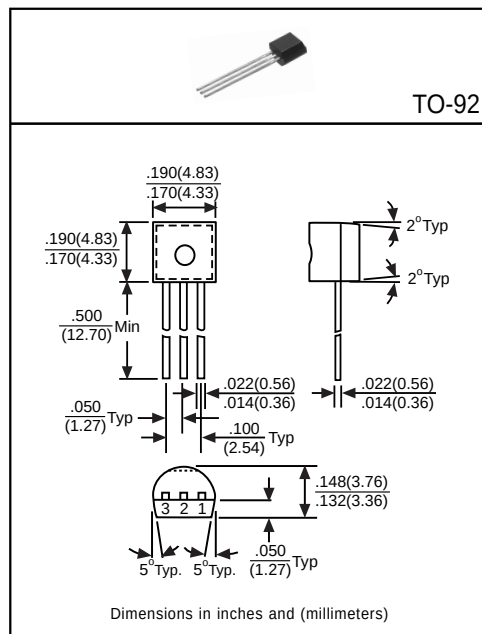
Designed for use in AM/FM amplifier and local oscillator of FM/VHF tuner.

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}	30	V
Collector-Emitter Voltage	V_{CE0}	15	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	50	mA
Base Current	I_B	10	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}	30	-	-	V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	BV_{CE0}	15	-	-	V	$I_C=1\text{mA}$
Emitter-Base Breakdown Voltage	BV_{EB0}	5	-	-	V	$I_E=100\mu\text{A}$
Collector Cutoff Current	I_{CBO}	-	-	50	nA	$V_{CB}=12\text{V}$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.5	V	$I_C=10\text{mA}$, $I_B=1\text{mA}$
DC Current Gain ⁽¹⁾	h_{FE}	28	-	270	-	$I_C=1\text{mA}$, $V_{CE}=5\text{V}$
Transition Frequency	f_T	700	1100	-	MHz	$I_C=5\text{mA}$, $V_{CE}=5\text{V}$
Output Capacitance	C_{ob}	-	1.3	1.7	pF	$V_{CB}=10\text{V}$, $I_E=0$

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

Classification of h_{FE}

Rank	D	E	F	G	H	I	J
Range	28~45	39~60	54~80	72~108	97~146	132~198	180~270