



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SD965

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

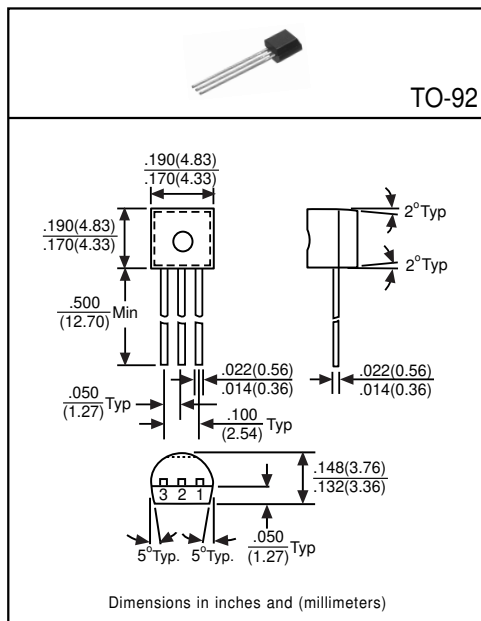
Designed for use as AF output amplifier and flash unit.

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}	40	V
Collector-Emitter Voltage	V_{CE0}	20	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	5	A
Total Power Dissipation	P_D	750	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}	40	-	-	V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	20	-	-	V	$I_C=1\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	7	-	-	V	$I_E=10\mu\text{A}$, $I_C=0$
Collector Cutoff Current	I_{CB0}	-	-	0.1	μA	$V_{CB}=10\text{V}$, $I_E=0$
Emitter Cutoff Current	I_{EB0}	-	-	0.1	μA	$V_{EB}=7\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	0.35	1	V	$I_C=3\text{A}$, $I_B=100\text{mA}$
DC Current Gain ⁽¹⁾	h_{FE1}	230	-	800	-	$I_C=0.5\text{A}$, $V_{CE}=2\text{V}$
	h_{FE2}	150	-	-	-	$I_C=2\text{A}$, $V_{CE}=2\text{V}$
Transition Frequency	f_T	-	150	-	MHz	$I_E=50\text{mA}$, $V_{CE}=6\text{V}$
Output Capacitance	C_{ob}	-	-	50	pF	$V_{CB}=20\text{V}$, $f=1\text{MHz}$, $I_E=0$

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

Classification of h_{FE1}

Rank	Q	R	S
Range	230~380	340~600	560~800