



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SC4242

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

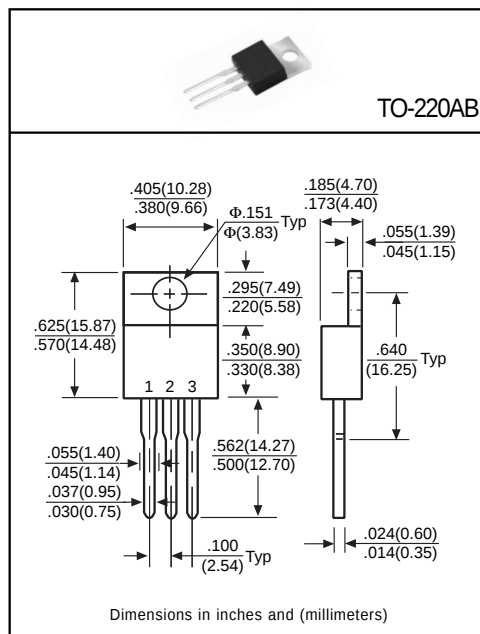
Designed for high speed switching applications.

Pinning

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	450	V
Collector-Emitter Voltage	V_{CE0}	400	V
Emitter-Base Voltage	V_{EB0}	10	V
Collector Current	I_C	7	A
Base Current	I_B	2	A
Total Power Dissipation($T_C=25^{\circ}\text{C}$)	P_D	40	W
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}	450	-	-	V	$I_C=1\text{mA}$, $I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	450	-	-	V	$I_C=100\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	10	-	-	V	$I_E=1\text{mA}$, $I_C=0$
Collector Cutoff Current	I_{CBO}	-	-	100	μA	$V_{CB}=450\text{V}$, $I_E=0$
Emitter Cutoff Current	I_{EBO}	-	-	100	μA	$V_{EB}=10\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.8	V	$I_C=4\text{A}$, $I_B=0.8\text{A}$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-	1.2	V	$I_C=4\text{A}$, $I_B=0.8\text{A}$
DC Current Gain ⁽¹⁾	h_{FE1}	15	-	55	-	$I_C=0.8\text{A}$, $V_{CE}=5\text{V}$
	h_{FE2}	10	-	-	-	$I_C=2\text{A}$, $V_{CE}=5\text{V}$
	h_{FE3}	10	-	-	-	$I_C=4\text{A}$, $V_{CE}=5\text{V}$

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

Classification of h_{FE1}

Rank	A	B1	B2	B3	B4
Range	15~28	22~35	29~42	36~49	43~55