DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

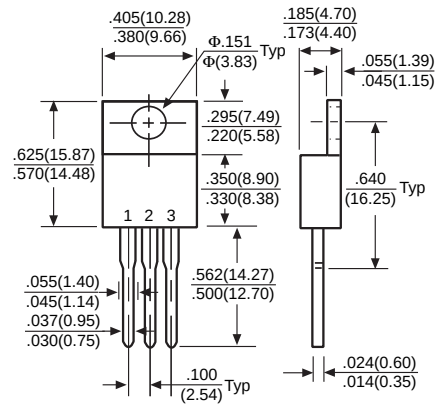
2SC4242

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

Designed for high speed switching applications.

TO-220AB



Dimensions in inches and (millimeters)

Pinning

1 = Base
2 = Collector
3 = Emitter

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	450	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	7	A
Base Current	I_B	2	A
Total Power Dissipation(T_C=25°C)	P_D	40	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Volatge	BV_{CBO}	450	-	-	V	I_C=1mA, I_E=0
Collector-Emitter Breakdown Voltage	BV_{CEO}	450	-	-	V	I_C=100mA, I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	10	-	-	V	I_E=1mA, I_C=0
Collector Cutoff Current	I_{CBO}	-	-	100	μA	V_{CB}=450V, I_E=0
Emitter Cutoff Current	I_{EBO}	-	-	100	μA	V_{EB}=10V, I_C=0
Collector-Emitter Saturation Voltage(1)	$V_{CE(sat)}$	-	-	0.8	V	I_C=4A, I_B=0.8A
Base-Emitter Saturation Voltage(1)	$V_{BE(sat)}$	-	-	1.2	V	I_C=4A, I_B=0.8A
DC Current Gain(1)	h_{FE1}	15	-	55	-	I_C=0.8A, V_{CE}=5V
	h_{FE2}	10	-	-	-	I_C=2A, V_{CE}=5V
	h_{FE3}	10	-	-	-	I_C=4A, V_{CE}=5V

(1)Pulse Test: Pulse Width ≦ 380μs, Duty Cycle ≦ 2%

Classification of h_{FE1}

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