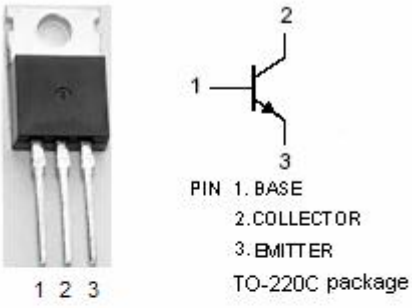
isc Silicon NPN Power Transistor — 2SC4242

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 400V(Min)
- Fast Switching Speed
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 0.8V(Max.)@ I_C= 4.0A
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in high-voltage, high-speed , power switching in inductive circuit , they are particularly suited for 115 and 220V switchmode applications such as switching regulator's, inverters, DC-DC converter.

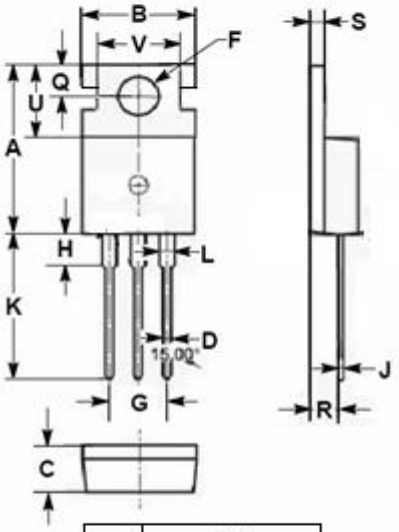


ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	3.125	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 0.1A; I_B= 0	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	8			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 450V; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 8V; I_C= 0			100	μA
h_{FE}	DC Current Gain	I_C= 4A ; V_{CE}= 5V	10			
Switching times						
t_{on}	Turn-on Time	I_C= 5A , I_{B1}= -I_{B2}=1A R_L= 30Ω ; V_{CC}= 150V			1.0	μs
t_{stg}	Storage Time				2.5	μs
t_f	Fall Time				0.5	μs