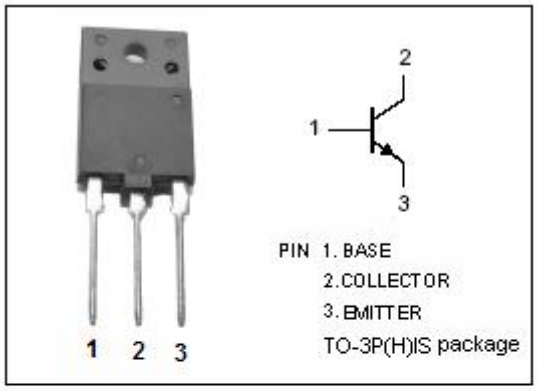
isc Silicon NPN Power Transistor — 2SC4542



DESCRIPTION

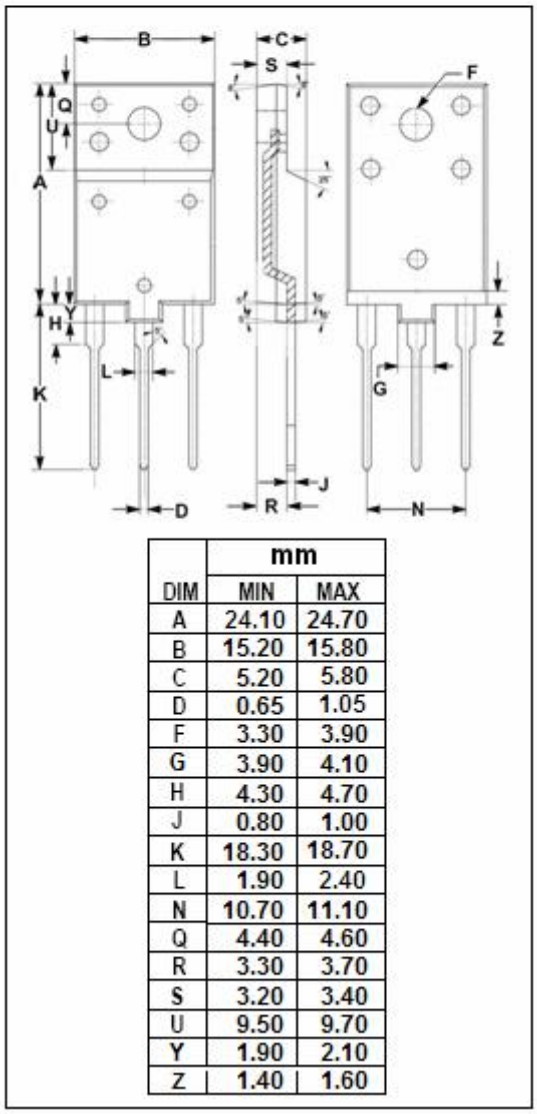
- High Breakdown Voltage-
  : V_{CBO}= 1500V (Min)
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Horizontal deflection output for high resolution display.
- High speed switching regulator output applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	600	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current- Continuous	10	A
I_{CM}	Collector Current- Peak	20	A
I_B	Base Current	5	A
P_C	Collector Power Dissipation @ T_C=25℃	50	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	24.10	24.70
B	15.20	15.80
C	5.20	5.80
D	0.65	1.05
F	3.30	3.90
G	3.90	4.10
H	4.30	4.70
J	0.80	1.00
K	18.30	18.70
L	1.90	2.40
N	10.70	11.10
Q	4.40	4.60
R	3.30	3.70
S	3.20	3.40
U	9.50	9.70
Y	1.90	2.10
Z	1.40	1.60

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 7A; I_B= 1.7A			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 7A; I_B= 1.7A			1.5	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 5mA; I I_B= 0	600			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 1500V ; I_E= 0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V ; I_C= 0			10	μA
h_{FE}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	8			
f_T	Current-Gain—Bandwidth Product	I_C= 0.1A ; V_{CE}= 10V	1	3		MHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V;f_{test}= 1.0MHz		210		pF
Switching Times						
t_{stg}	Storage Time	I_{CP}= 7A , I_{B1}= 1.4A; I_{B2}= -2.8A; R_L= 28.5Ω		1.8	2.5	μs
t_f	Fall Time			0.1	0.2	μs

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