

isc Silicon NPN Power Transistor

2SC4542

DESCRIPTION

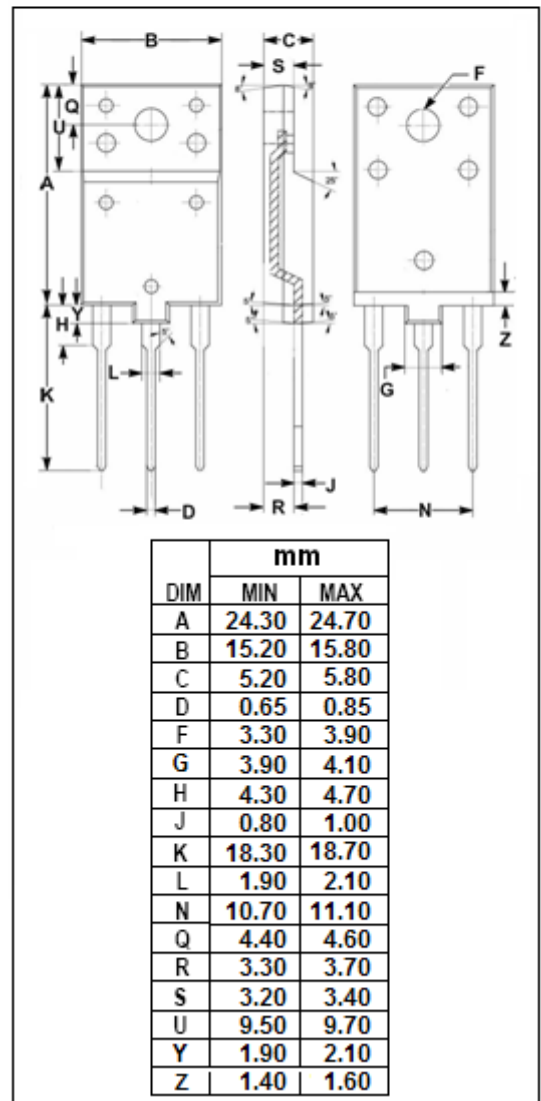
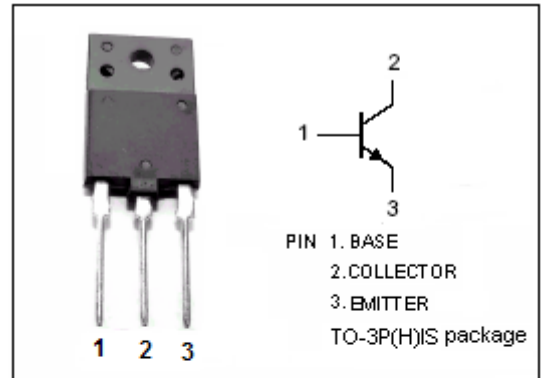
- High Breakdown Voltage-
: $V_{CBO}=1500V$ (Min)
- High Switching Speed

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

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 @ $T_C=25^{\circ}C$	50	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS

T_C=25°C 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 _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