

isc Silicon NPN Power Transistor

2SC4542

DESCRIPTION

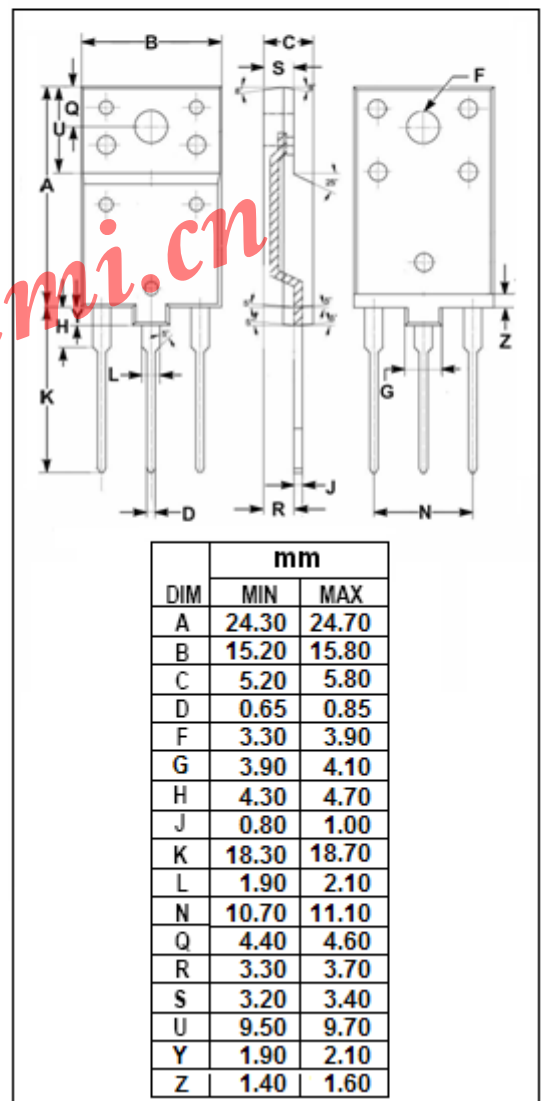
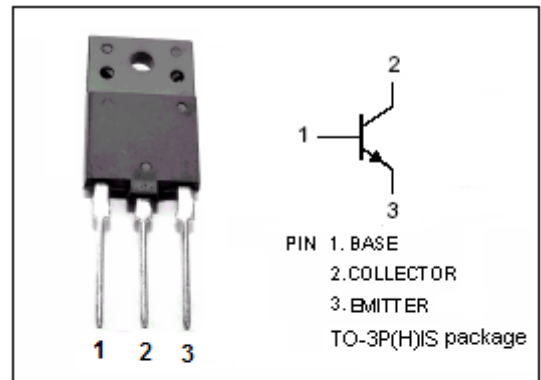
- High Breakdown Voltage-
: $V_{CBO} = 1500V$ (Min)
- High Switching Speed

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	$^\circ C$



isc Silicon NPN Power Transistor**2SC4542****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ 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	$I_{CP}=7A; I_{B1}=1.4A; I_{B2}=-2.8A;$ $R_L=28.5\Omega$		1.8	2.5	μs
t_f	Fall Time			0.1	0.2	μs