

isc Silicon NPN Power Transistor

2SC5148

DESCRIPTION

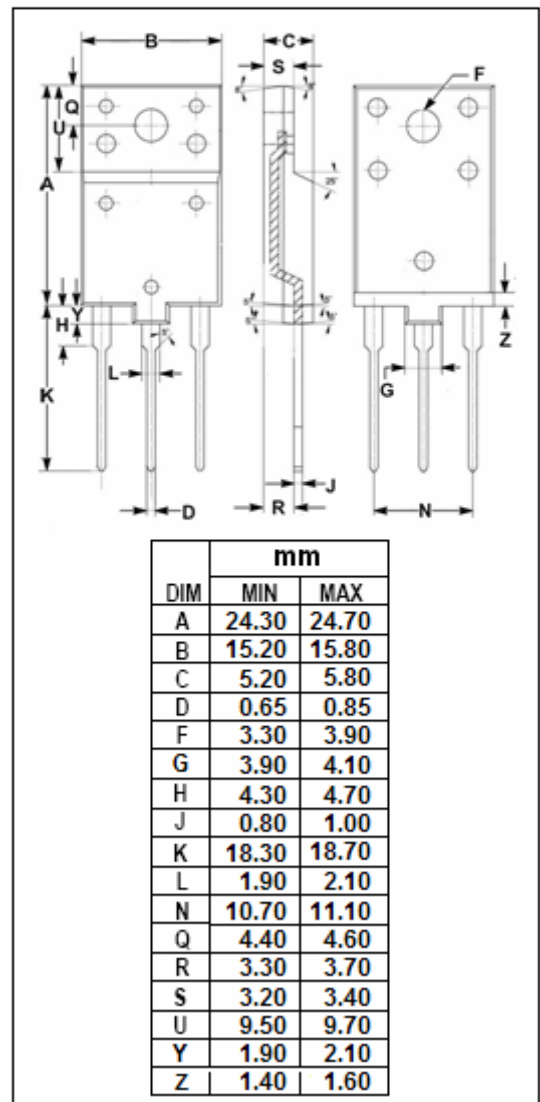
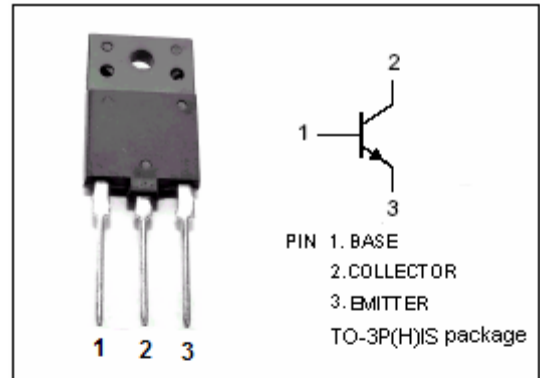
- High Breakdown Voltage-
: $V_{CBO} = 1500V$ (Min)
- High Switching Speed
- Low Saturation Voltage

APPLICATIONS

- Horizontal deflection output for high resolution display, color TV
- High speed switching 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	8	A
I_{CP}	Collector Current-Pulse	16	A
I_B	Base Current- Continuous	4	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

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}$; $I_B=0$	600			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=1.3\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=1.3\text{A}$			1.3	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1500\text{V}$; $I_E=0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			10	μA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}$; $V_{CE}=5\text{V}$	8		25	
h_{FE-2}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=5\text{V}$	3.8		8.0	
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}$; $V_{CE}=10\text{V}$		2		MHz
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=1.0\text{MHz}$		110		pF

Switching times

t_{stg}	Storage Time	$I_{CP}=4\text{A}$, $I_{B1}=0.8\text{A}$; $f_H=64\text{kHz}$			4.0	μs
t_f	Fall Time				0.3	μs

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