

isc Silicon NPN Power Transistor

2SC5148

DESCRIPTION

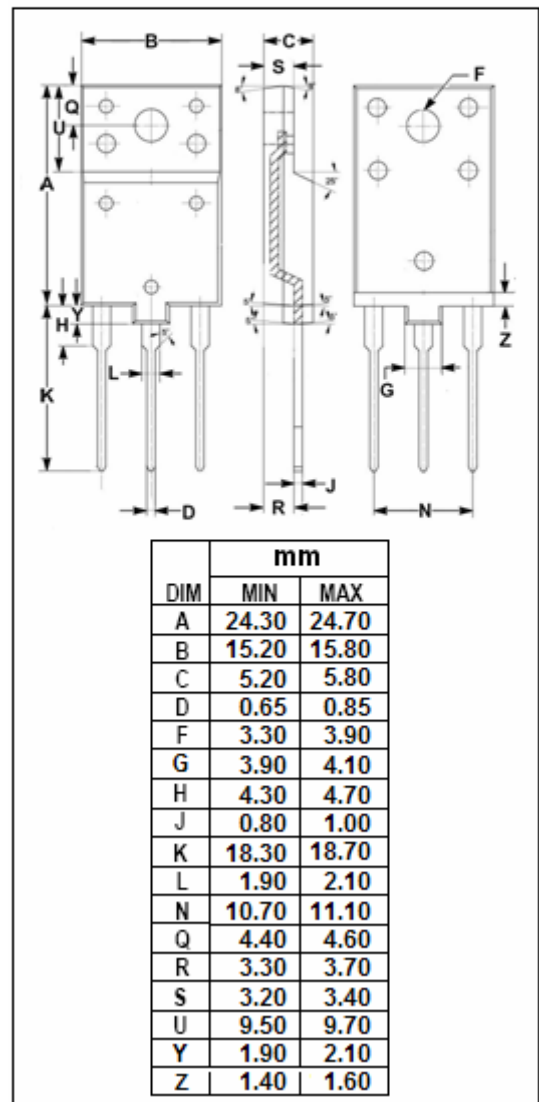
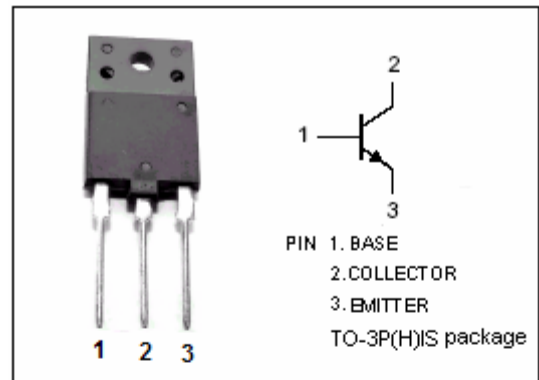
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- High Switching Speed
- Low Saturation Voltage

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	$\mu\text{A}$
$h_{FE-1}$	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	$\mu\text{s}$
$t_f$	Fall Time				0.3	$\mu\text{s}$

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