

**isc Silicon NPN Power Transistor**
**2SD1431**
**DESCRIPTION**

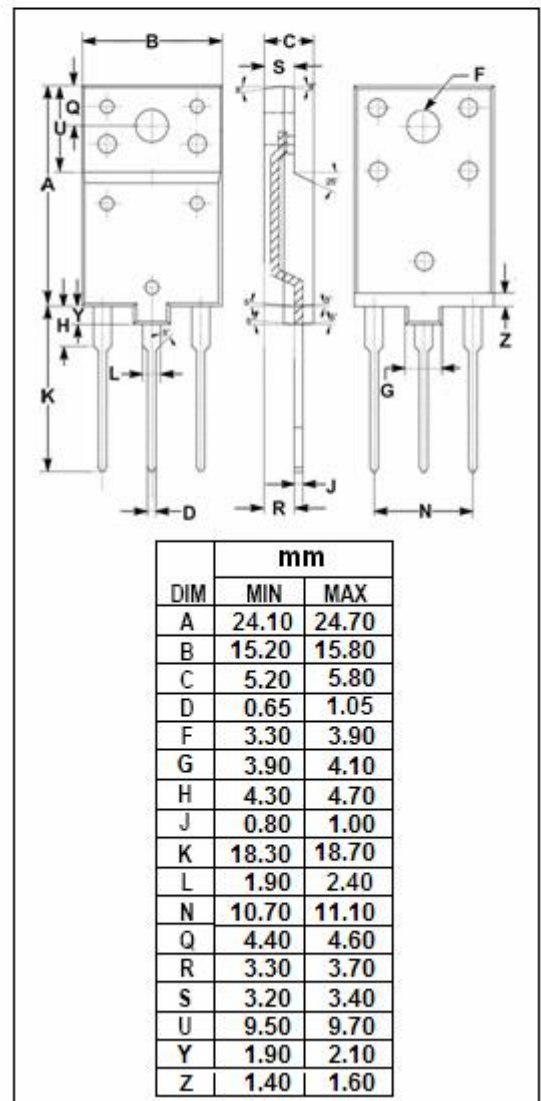
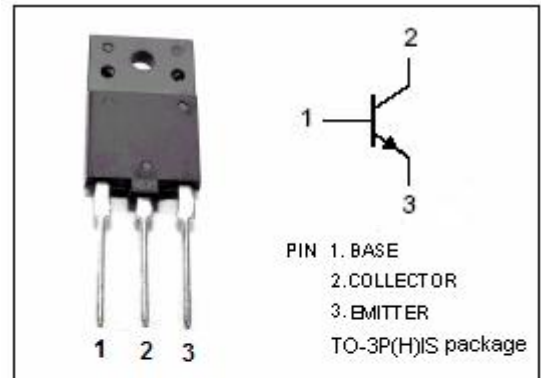
- High Speed  
 $t_f = 1.0 \mu s (\text{MIN}) @ I_C = 4A, I_{B(\text{end})} = 0.8A$
- High Voltage  
 $V_{CBO} = 1300V$
- Low Saturation Voltage  
 $V_{CE(\text{sat})} < 5.0V @ I_C = 4A; I_B = 0.8A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for color TV horizontal output applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1300	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	5	A
$I_E$	Emitter Current	5	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ C$	80	W
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.8A			5.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.8A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	8	20		
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1MHz		165		pF
Switching times						
t <sub>f</sub>	Fall Time	I <sub>C</sub> = 4A , I <sub>B(end)</sub> = 0.8A;			1.0	μs

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