

## **isc** Silicon NPN Power Transistor

# 2SD1654

## DESCRIPTION

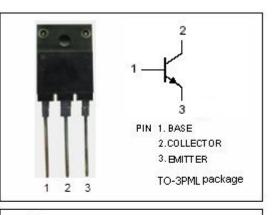
- High Breakdown Voltage-
  - : V<sub>CBO</sub>= 1500V (Min)
- High Switching Speed
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

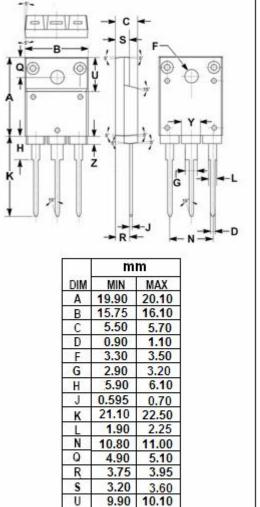
## APPLICATIONS

Color TV horizontal deflection output applications.

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SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	1500	V
V <sub>CEO</sub>	Collector-Emitter Voltage	800	V
VEBO	Emitter-Base Voltage	6	V
lc	Collector Current- Continuous	3.5	A
Іср	Collector Current-Pulse	10	A
Pc	Collector Power Dissipation @ $T_c$ =25 °C	50	W
TJ	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C
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## ABSOLUTE MAXIMUM RATINGS(Ta=25°C)





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Ζ

4.20

1.90

4.90

2.10



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## ELECTRICAL CHARACTERISTICS

## $T_{c}\text{=}25^{\circ}\!\!\!\!\!\!C$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	МАХ	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA; R <sub>BE</sub> = ∞	800			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	1500			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 200mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.8A			8.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.8A			1.5	V
І <sub>сво</sub>	Collector Cutoff Current	V <sub>CB</sub> = 800V ; 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> = 0.5A; V <sub>CE</sub> = 5V	8			
t <sub>f</sub>	Fall Time	I <sub>C</sub> = 3A, I <sub>B1</sub> = 0.8A; I <sub>B2</sub> = 1.6A			0.7	μ <b>S</b>

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