

**isc Silicon NPN Power Transistor**
**2SC2654**
**DESCRIPTION**

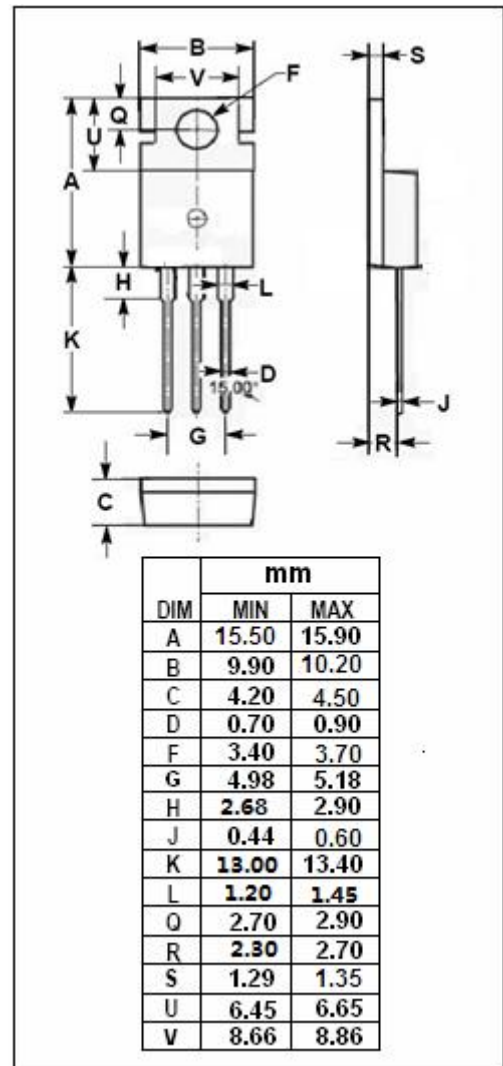
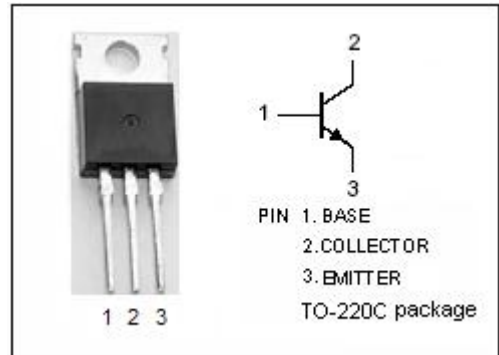
- High Collector Current:  $I_C = 7A$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.3(V)(Max) @ I_C = 3A$
- Complement to Type 2SA1129
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low-frequency power amplifiers and mid-speed switching applications.
- Ideal for use in a lamp driver.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	7	A
$I_{CM}$	Collector Current-Peak	15	A
$I_B$	Base Current- Continuous	3.5	A
$P_C$	Total Power Dissipation @ $T_a = 25^\circ C$	1.5	W
	Total Power Dissipation @ $T_c = 25^\circ C$	40	
$T_J$	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)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.1A			0.3	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 0.5A			0.6	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.1A			1.5	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 0.5A			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 40V; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 3A; V <sub>CE</sub> = 1V	40		320	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 5A; V <sub>CE</sub> = 1V	20			

**Switching Times**

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 5A, R <sub>L</sub> = 4 Ω, I <sub>B1</sub> = -I <sub>B2</sub> = 0.5A, V <sub>CC</sub> ≈ 20V			1.0	μ s
t <sub>stg</sub>	Storage Time				2.5	μ s
t <sub>f</sub>	Fall Time				1.0	μ s

**h<sub>FE-1</sub> Classifications**

M	L	K	J
40-80	60-120	100-200	160-320

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