

**isc Silicon NPN Power Transistor**
**2SD2089**
**DESCRIPTION**

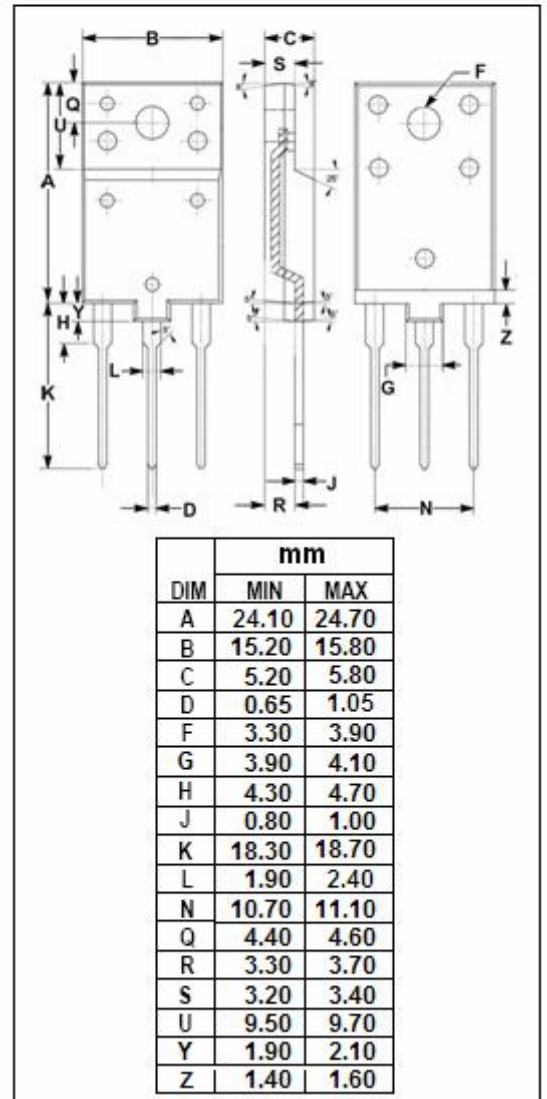
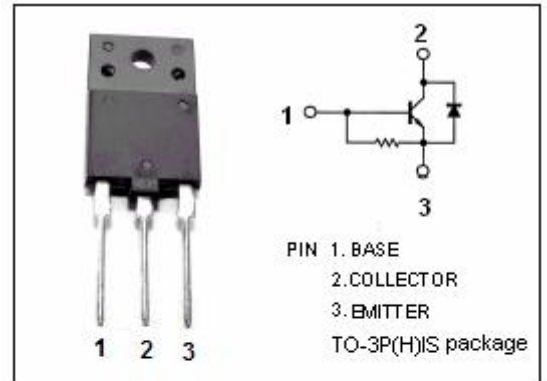
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- High Switching Speed
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**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	1500	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current- Continuous	3.5	A
$I_B$	Base Current- Continuous	1	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	3.5	W
	Collector 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>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 200mA; I <sub>C</sub> = 0	5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> =2.2A; I <sub>B</sub> = 0.7A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> =2.2A; I <sub>B</sub> = 0.7A			1.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V; I <sub>E</sub> = 0			10	μA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V	9		18	
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 2.2A			1.5	V
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 10V		3		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f <sub>test</sub> =1.0MHz		95		pF
t <sub>f</sub>	Fall Time	I <sub>CP</sub> = 2.2A, I <sub>B1(end)</sub> = 0.7A			0.5	μs

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