

**isc Silicon NPN Power Transistor**
**2SD2349**
**DESCRIPTION**

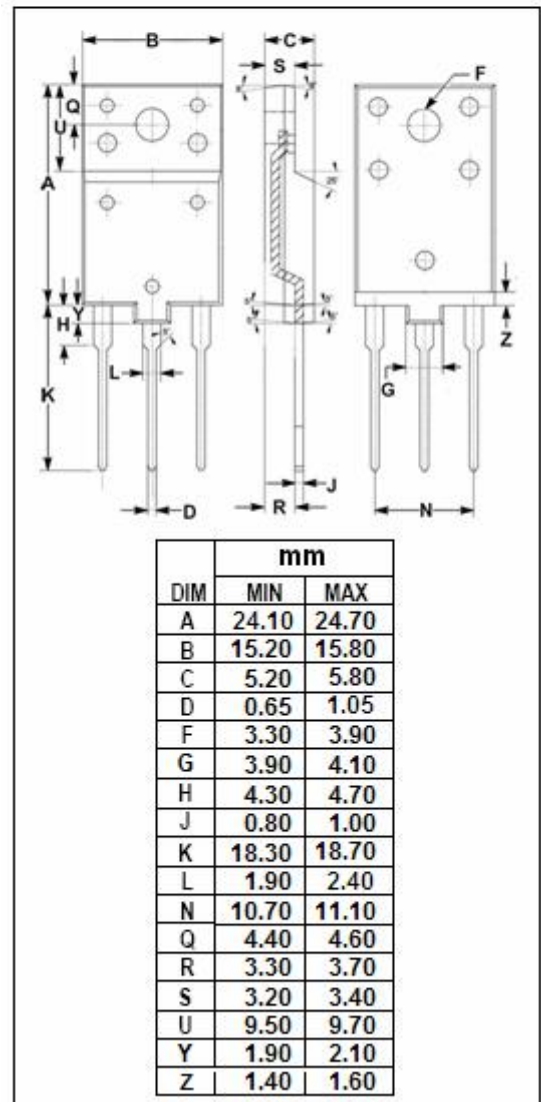
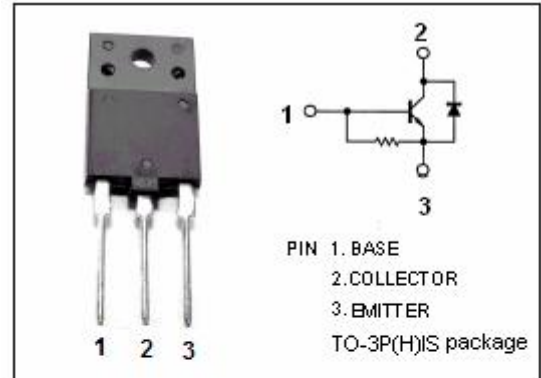
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- Low Saturation Voltage
- High Switching Speed
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for 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	10	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current- Continuous	5	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	$^\circ C$



## isc Silicon NPN Power Transistor

## 2SD2349

## 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> = 300mA ; I <sub>C</sub> = 0	5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 1.4A			5.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 1.4A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1500V; I <sub>E</sub> = 0			1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0	83		250	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 5V	10			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 7A ; V <sub>CE</sub> = 5V	6		9	
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 7A			1.8	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		170		pF
t <sub>s</sub>	Storage Time				12	μs
t <sub>f</sub>	Fall Time	I <sub>CP</sub> = 7A , I <sub>B1(end)</sub> = 1.4A			0.7	μs

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