

**isc Silicon NPN Power Transistor**
**2SD1846**
**DESCRIPTION**

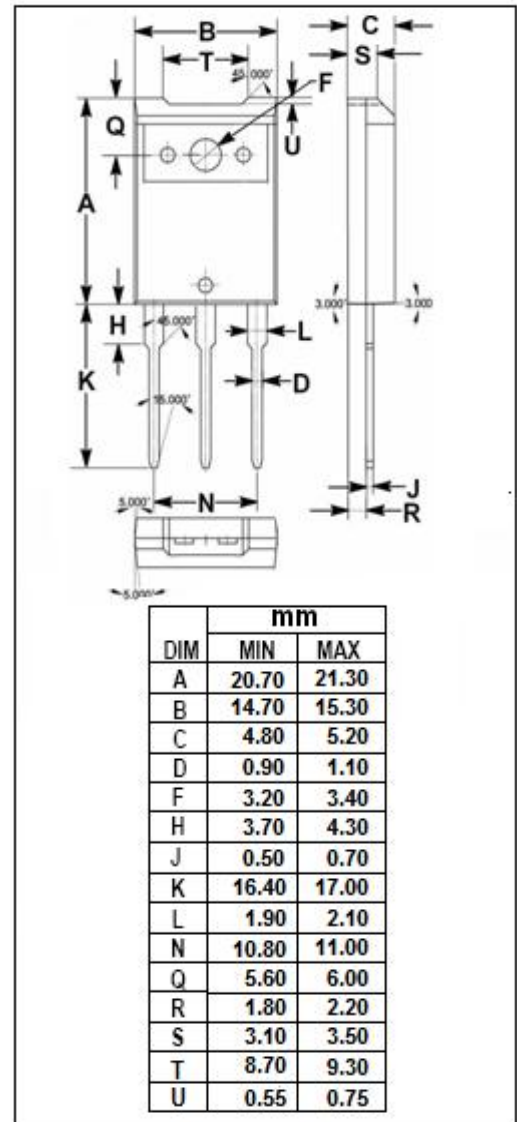
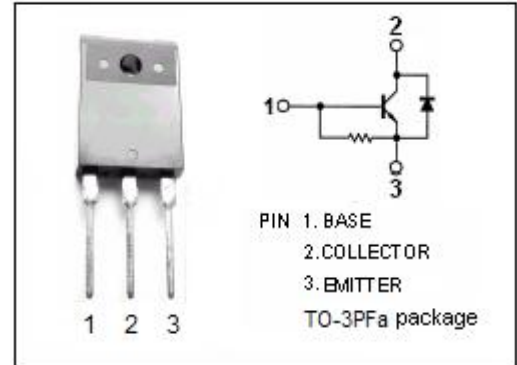
- Collector-Base Breakdown Voltage-  
:  $V_{CBO} = 1300V$  (Min.)
- High Switching Speed
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for horizontal deflection output applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector- Base Voltage	1300	V
$V_{CES}$	Collector-Emitter Voltage	1300	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3.5	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current- Continuous	1.5	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	3	W
	Collector Power Dissipation @ $T_c = 25^\circ C$	60	
$T_J$	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	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.8A			8.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.8A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 750V; I <sub>E</sub> = 0 V <sub>CB</sub> = 1300V; I <sub>E</sub> = 0			10 1.0	μ A mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V	5		25	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 3A; V <sub>CE</sub> = 10V	4			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V		2		MHz
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 3.5A			2.0	V

Switching times, Resistive Load

t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 3A; I <sub>B1</sub> = 0.8A; I <sub>B2</sub> = 1.6A; V <sub>CC</sub> = 200V		1.5		μ s
t <sub>f</sub>	Fall Time			0.2		μ s

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