

**isc Silicon NPN Darlington Power Transistor**
**2SD1446**
**DESCRIPTION**

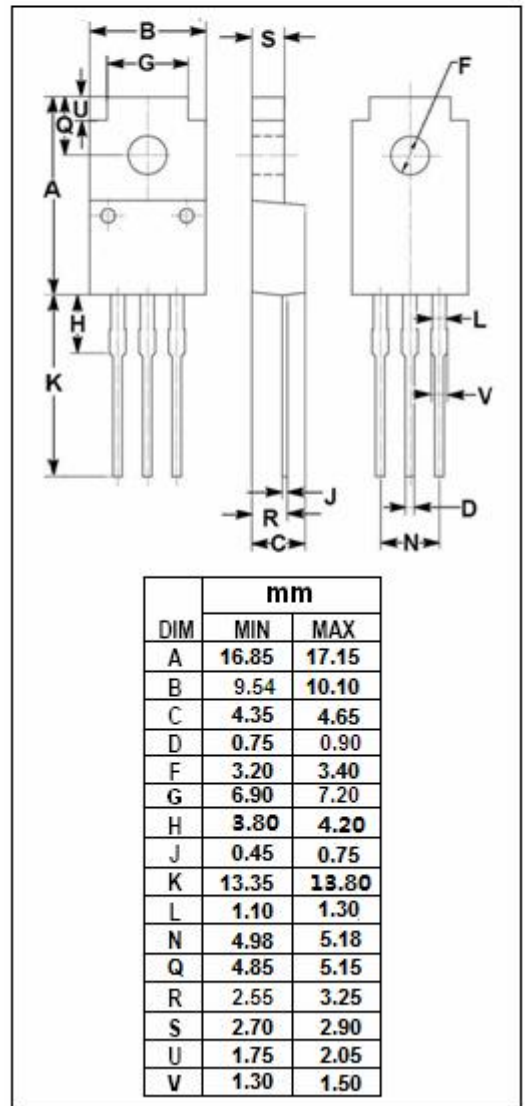
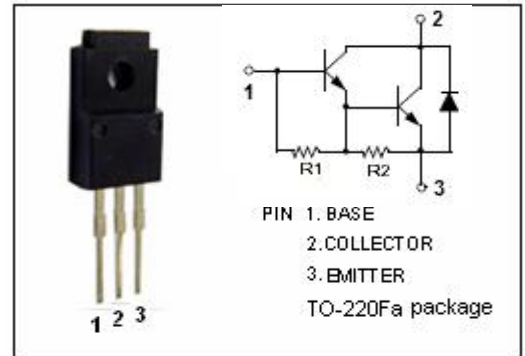
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 400V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 1.5V(\text{Max}) @ I_C = 3A$
- High DC Current Gain  
:  $h_{FE} = 500(\text{Min}) @ I_C = 2A, V_{CE} = 2V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Power amplification applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	6	A
$I_{CM}$	Collector Current-Peak	10	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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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)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA ; I <sub>B</sub> = 0	400			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 5mA ; I <sub>C</sub> = 0	5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.06A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.06A			2.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 350V; I <sub>E</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			5.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 2V	500			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 10V		15		MHz

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