

**isc Silicon NPN Power Transistor**
**2SD1407**
**DESCRIPTION**

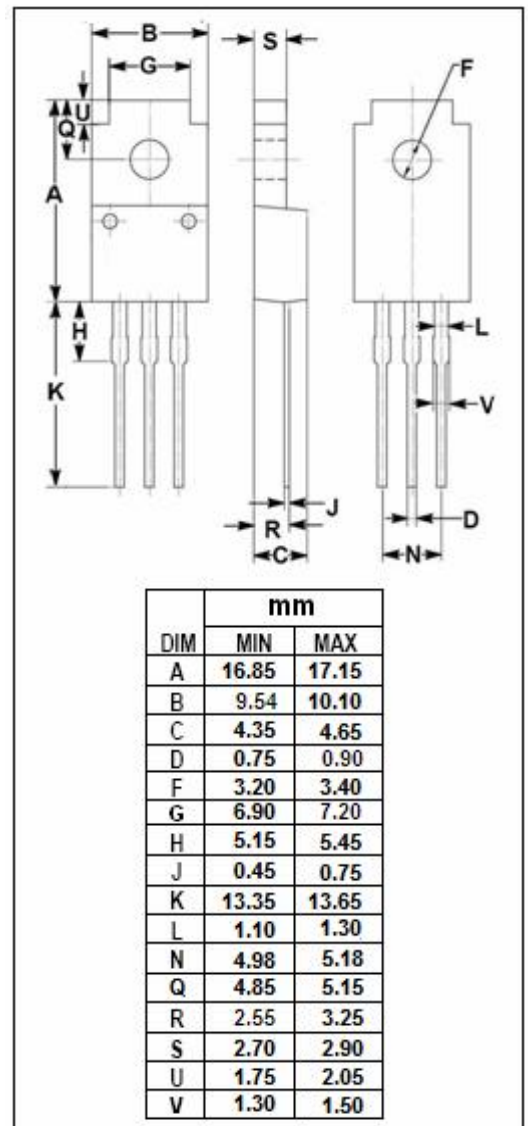
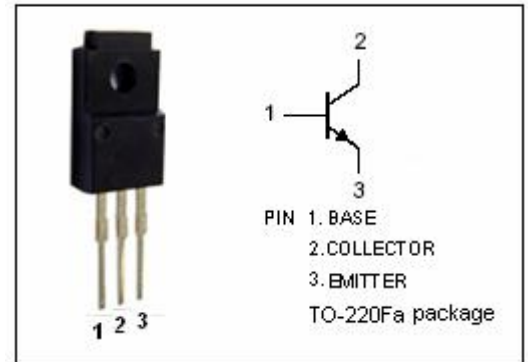
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 2.0V(\text{Max}) @ I_C = 4A$
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 100V (\text{Min})$
- Complement to Type 2SB1016
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	5	A
$I_B$	Base Current-Continuous	0.5	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	25	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

2SD1407

## 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	100			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			2.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 100V; 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			1.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	40	100	240	
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V, f <sub>test</sub> = 1MHz		100		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V		12		MHz

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