

**isc Silicon PNP Darlington Power Transistor**
**2SB1430**
**DESCRIPTION**

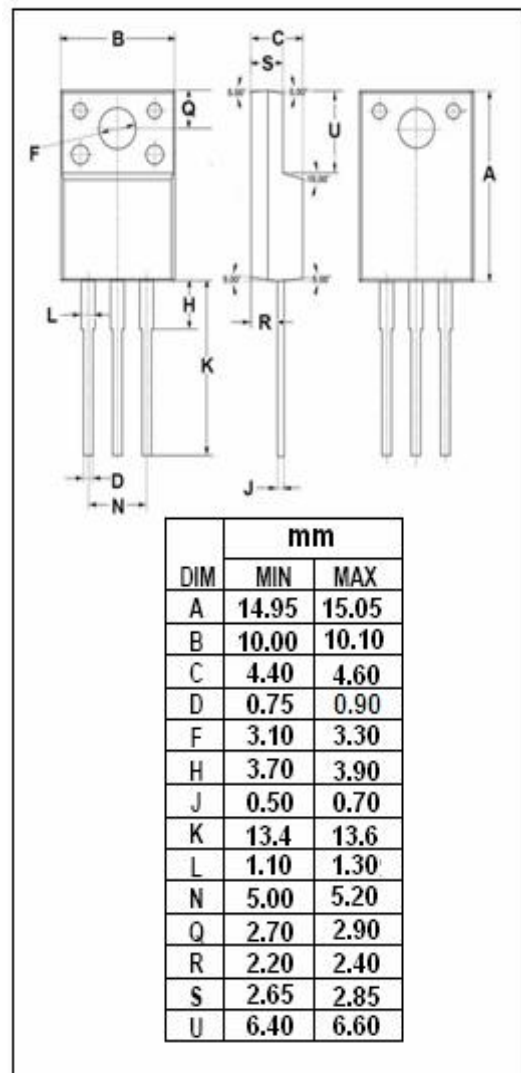
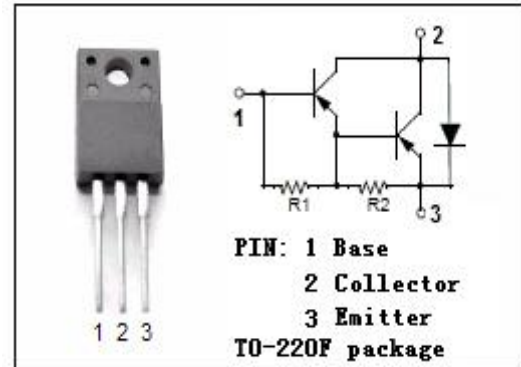
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -100V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 2000(\text{Min})@ (V_{CE} = -2V, I_C = -2A)$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = -1.5V(\text{Max})@ (I_C = -2A, I_B = -2mA)$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low-frequency power amplifiers and low-speed switching 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	-7	V
$I_C$	Collector Current-Continuous	-5	A
$I_{CM}$	Collector Current-Peak	-10	A
$I_B$	Base Current-Continuous	-0.5	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	20	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -2A; I <sub>B</sub> = -2mA			-1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -2A; I <sub>B</sub> = -2mA			-2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -100V; I <sub>E</sub> = 0			-1.0	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -2A; V <sub>CE</sub> = -2V	2000		20000	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -4A; V <sub>CE</sub> = -2V	500			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = -10V; f <sub>test</sub> = 1MHz		60		pF

## Switching Times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = -2A, I <sub>B1</sub> = -I <sub>B2</sub> = -2mA, V <sub>CC</sub> ≈ -50V; R <sub>L</sub> = 25 Ω		0.5		μ s
t <sub>stg</sub>	Storage Time			1.0		μ s
t <sub>f</sub>	Fall Time			1.0		μ s

◆ h<sub>FE-1</sub> Classifications

M	L	K
2000-5000	4000-10000	8000-20000

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