

**isc Silicon PNP Power Transistor**
**2SB1135**
**DESCRIPTION**

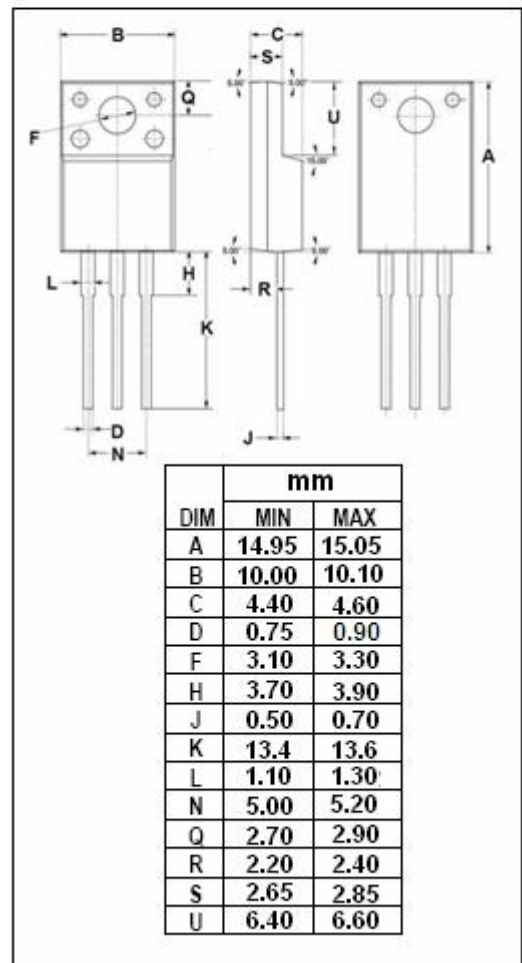
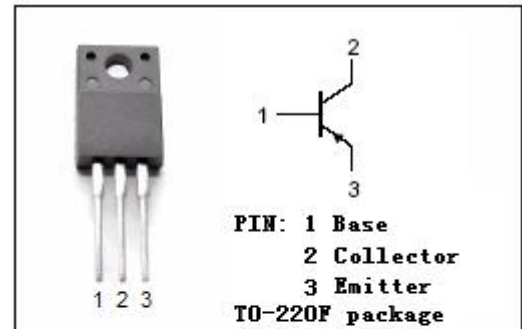
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -50V(\text{Min})$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = -0.4V(\text{Max.}) @ I_C = -4A$
- Complement to Type 2SD1668
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for relay drivers, high-speed inverters, and other general high-current switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current-Continuous	-7	A
$I_{CM}$	Collector Current-Peak	-12	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



**isc Silicon PNP Power Transistor****2SB1135****ELECTRICAL CHARACTERISTICS**T<sub>j</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> = -1mA; R <sub>BE</sub> = ∞	-50			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -1mA; I <sub>E</sub> = 0	-60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -1mA; I <sub>C</sub> = 0	-6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -0.4A			-0.4	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -40V; I <sub>E</sub> =0			-100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -4V; I <sub>C</sub> =0			-100	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -1A; V <sub>CE</sub> = -2V	70		280	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -5A; V <sub>CE</sub> = -2V	30			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -1A; V <sub>CE</sub> = -5V		10		MHz

## Switching Times

t <sub>on</sub>	Turn-on Time			0.2		μ s
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = -2A, I <sub>B1</sub> = -I <sub>B2</sub> = -0.2A		0.7		μ s
t <sub>f</sub>	Fall Time			0.1		μ s

◆ h<sub>FE-1</sub> Classifications

Q	R	S
70-140	100-200	140-280

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