

**isc Silicon NPN Power Transistor**
**2SD1133**
**DESCRIPTION**

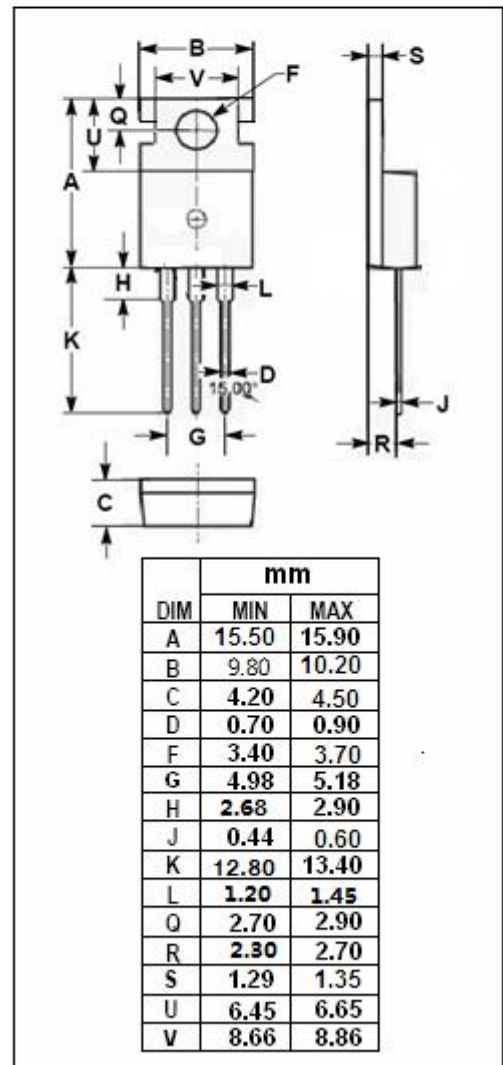
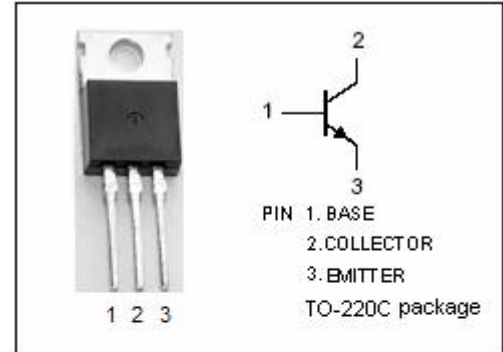
- Collector Current:  $I_C = 4A$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 1.0V(Max) @ I_C = 2A$
- High Collector Power Dissipation
- Complement to Type 2SB857
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low frequency power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	70	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	4	A
$I_{CM}$	Collector Current-Peak	8	A
$P_C$	Total Power Dissipation @ $T_C = 25^\circ C$	40	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-45~150	$^\circ C$



## isc Silicon NPN Power Transistor

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## ELECTRICAL CHARACTERISTICS

 $T_c=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}$ ; $R_{BE}=\infty$	50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\ \mu\text{A}$ ; $I_E=0$	70			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\ \mu\text{A}$ ; $I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}$ ; $I_B=0.2\text{A}$			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=1\text{A}$ ; $V_{CE}=4\text{V}$			1.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=50\text{V}$ ; $I_E=0$			1	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}$ ; $V_{CE}=4\text{V}$	60		320	
$h_{FE-2}$	DC Current Gain	$I_C=0.1\text{A}$ ; $V_{CE}=4\text{V}$	35			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}$ ; $V_{CE}=4\text{V}$		7		MHz

◆  $h_{FE-1}$  Classifications

B	C	D
60-120	100-200	160-320

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