

isc Silicon NPN Power Transistor

2SD1533

DESCRIPTION

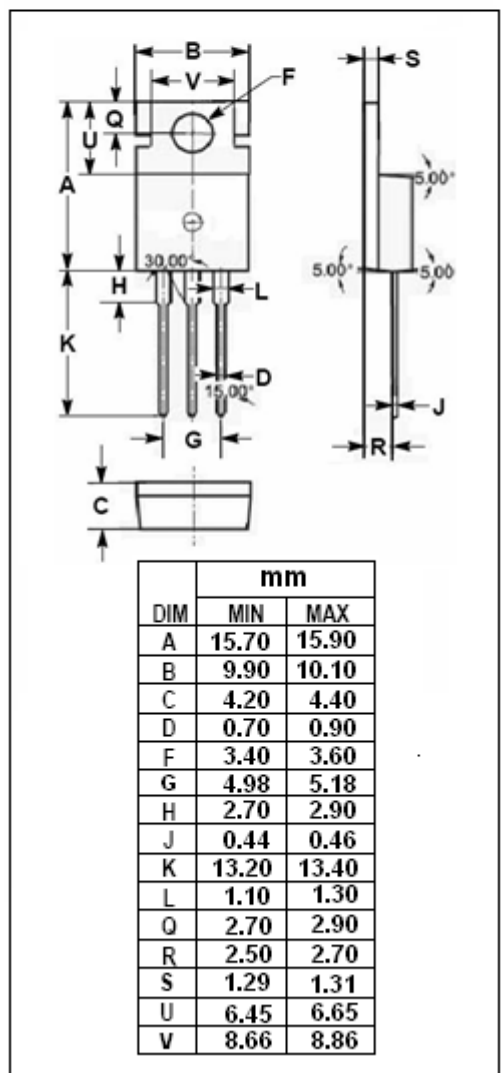
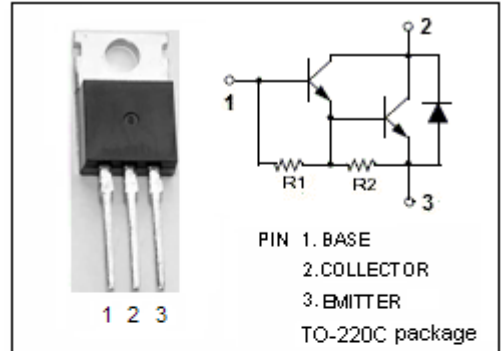
- Collector-Base Breakdown Voltage-
: $V_{(BR)CBO} = 500V(\text{Min.})$
- Wide Area of Safe Operation

APPLICATIONS

- Designed for high power amplifier 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	12	V
I_C	Collector Current	7	A
I_{CM}	Collector Current-peak	14	A
I_B	Base Current	0.5	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.4	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=0.1\text{A}; I_B=0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=70\text{mA}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=70\text{mA}$			2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=500\text{V}; I_E=0$			0.1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=400\text{V}; I_B=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=12\text{V}; I_C=0$			100	mA
h_{FE-1}	DC Current Gain	$I_C=2\text{A}; V_{CE}=2\text{V}$	500			
h_{FE-2}	DC Current Gain	$I_C=6\text{A}; V_{CE}=2\text{V}$	200			

Switching Times

t_{on}	Turn-on Time	$I_C=7\text{A}; I_{B1}=-I_{B2}=70\text{mA}, V_{CC}=300\text{V}$		1.5		μs
t_{stg}	Storage Time			5.0		μs
t_f	Fall Time			6.5		μs