

isc Silicon NPN Power Transistor

2SD1833

DESCRIPTION

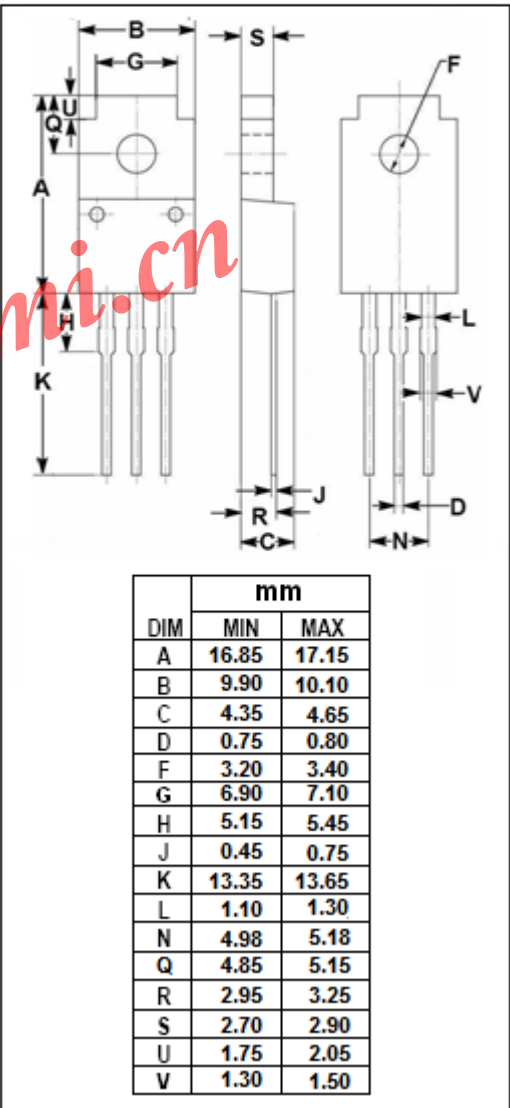
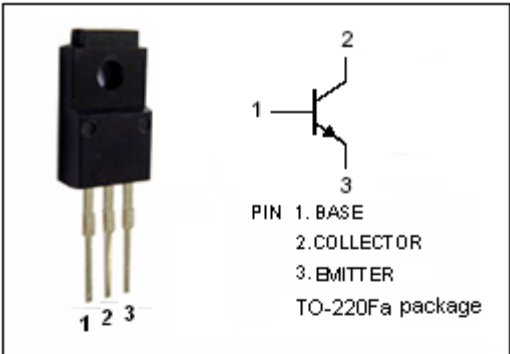
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 1.0V(Max.) @ I_C = 4A$
- High Collector Power Dissipation
- Good Linearity of h_{FE}
- Wide Area of Safe Operation

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	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Pulse	10	A
P_C	Collector Power Dissipation @ $T_a=25^{\circ}C$	1.5	W
	Collector Power Dissipation @ $T_C=25^{\circ}C$	30	
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



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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	$I_C=1\text{mA}; I_B=0$	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=50\mu\text{A}; I_E=0$	100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\mu\text{A}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			10	μA
h_{FE}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	60		320	
f_T	Current-Gain—Bandwidth Product	$I_E=-0.5\text{A}; V_{CE}=5\text{V}$		5		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=1.0\text{MHz}$		150		pF

◆ h_{FE} Classifications

D	E	F
60-120	100-200	160-320