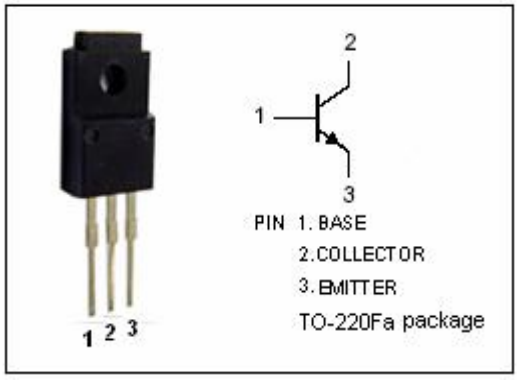
isc Silicon NPN Power Transistor — 2SD1833



DESCRIPTION

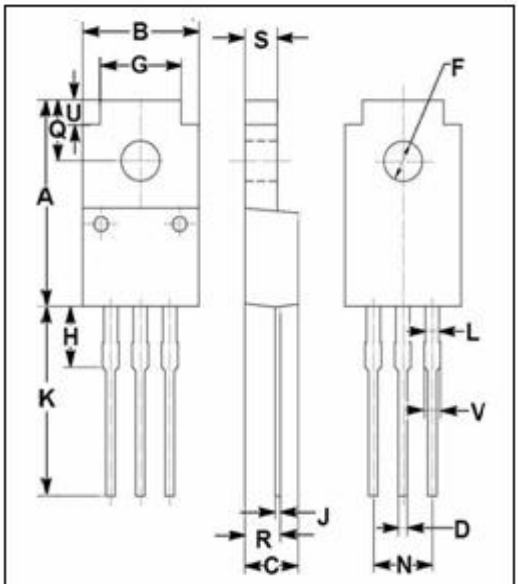
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= 1.0V(Max.)@ I_C= 4A
- High Collector Power Dissipation
- Good Linearity of h_{FE}
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low frequency power amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	1.5	W
	Collector Power Dissipation @ T_C=25℃	30	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	3.80	4.20
J	0.45	0.75
K	13.35	13.80
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

isc Silicon NPN Power Transistor 2SD1833

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

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

◆ **h_{FE} Classifications**

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