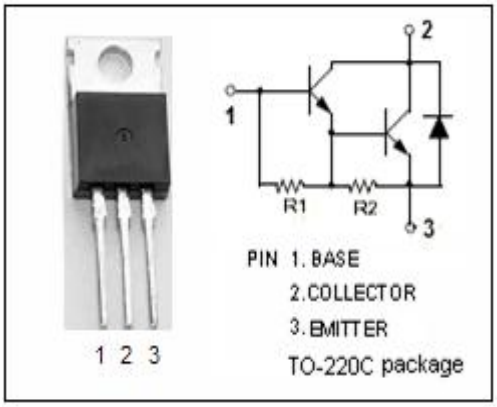
isc Silicon NPN Darlington Power Transistor — 2SD833

DESCRIPTION

- High DC Current Gain-
  : h_{FE}= 4000(Min) @I_C= 3A
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 1.5V(Max.) @ I_C= 3A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

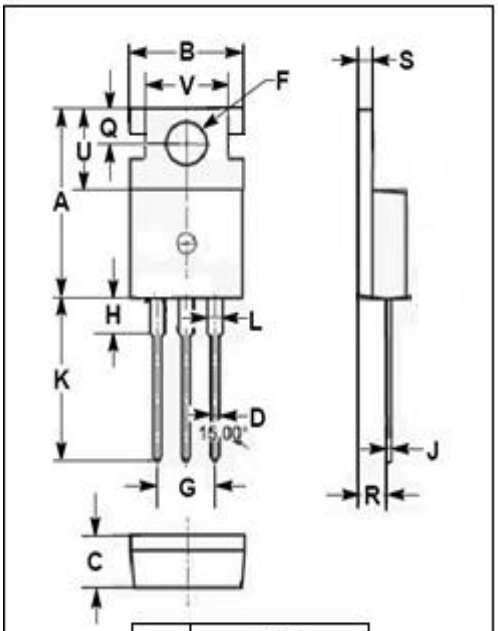
- Audio power amplifiers
- Relay& solenoid drivers
- Motor controls
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_B	Base Current-Continuous	0.2	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	3.0	℃/W



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA; I_B= 0	50			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA; I_B= 0	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 0.1mA; I_E= 0	60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 3mA; I_C= 0	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 6mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 6mA			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 60V; I_E=0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C=0			3.0	mA
h_{FE}	DC Current Gain	I_C= 3A; V_{CE}= 3V	4000			