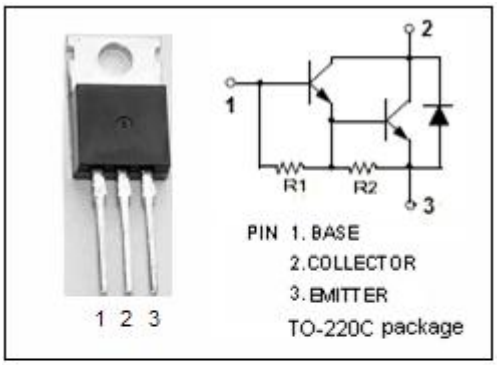
isc Silicon NPN Darlington Power Transistor — 2SD1377

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 120V(Min)
- High DC Current Gain
  : h_{FE}= 2000(Min) @I_C= 4A
- Low Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

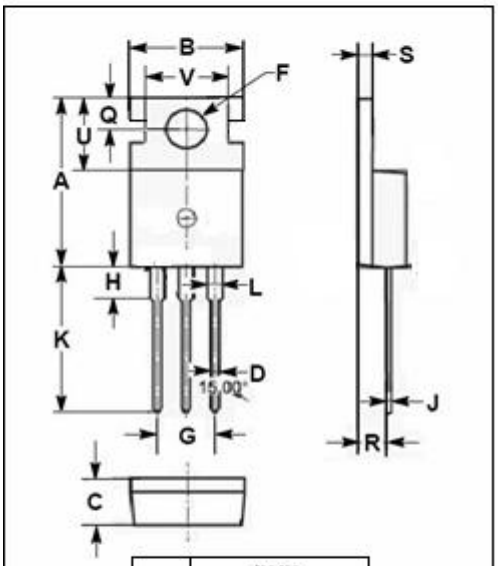


APPLICATIONS

- Designed for general-purpose amplifier and low-speed switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_{CP}	Collector Current-Peak	12	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



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
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 30mA; R_{BE}= ∞	120			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	120			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 6mA			1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 30mA			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 6mA			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3.0	mA
h_{FE-1}	DC Current Gain	I_C= 4A; V_{CE}= 3V	2000		15000	
h_{FE-2}	DC Current Gain	I_C= 8A; V_{CE}= 3V	750			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 10V		20		MHz

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