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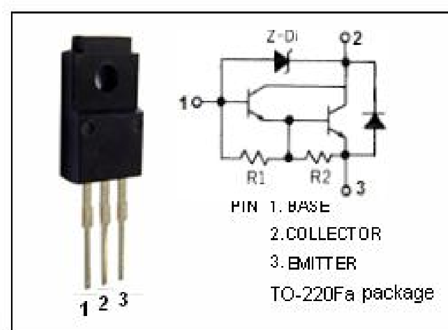
isc Silicon NPN Darlington Power Transistor 2SD2051

DESCRIPTION

- High DC Current Gain
  : h_{FE}= 4000(Min) @I_C= 1A
- Low Collector Saturation Voltgae-
  : $V_{CE(sat)}$= 1.5V(Max.)@ I_C= 1A
- Incorporating a built-in zener diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

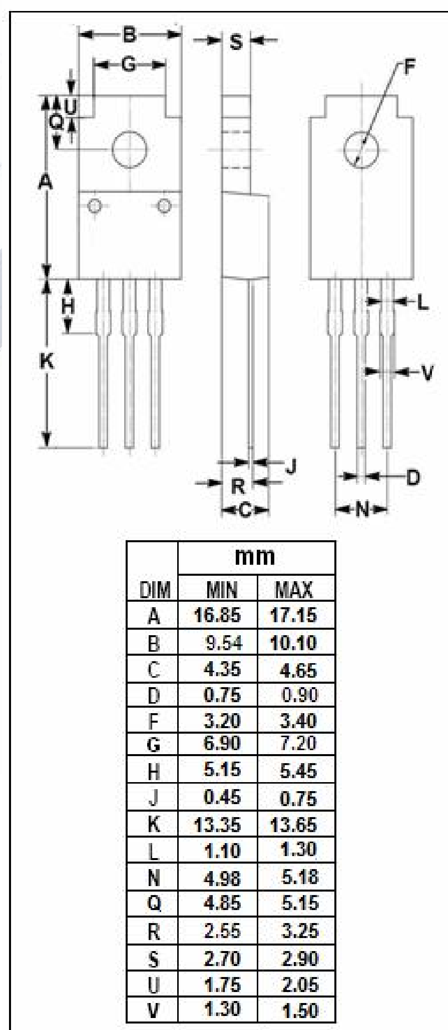


APPLICATIONS

- For low-frequency amplification

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50-70	V
V_{CEO}	Collector-Emitter Voltage	50-70	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	1.6	A
I_{CP}	Collector Current-Peak	2.5	A
P_C	Collector Power Dissipation @ T_a=25℃	2.0	W
	Collector Power Dissipation @ T_C=25℃	12	
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	5.15	5.45
J	0.45	0.75
K	13.35	13.65
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

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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= 1mA; I_B= 0	50		70	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=0.1mA; I_E= 0	50		70	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= 1A; I_B= 1mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 1A; I_B= 1mA			2.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 25V; I_E= 0			1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3.0	mA
h_{FE}	DC Current Gain	I_C= 1A; V_{CE}= 10V	4000		40000	
f_T	Current-Gain—Bandwidth Product	I_C= 10mA; V_{CE}= 10V	200			MHz

◆ **h_{FE}Classifications**

Q	R	S
4000-10000	8000-20000	16000-40000