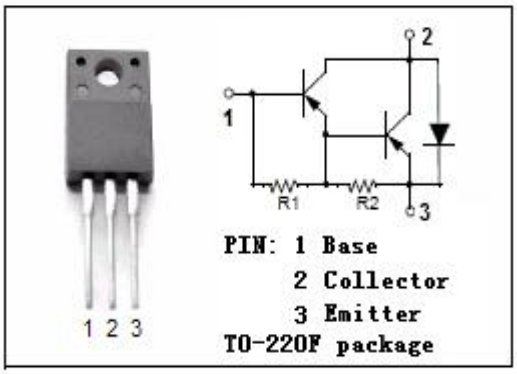
isc Silicon PNP Darlington Power Transistor 2SB1381

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= -100V(Min)
- High DC Current Gain-
  : h_{FE}= 1500(Min)@ (V_{CE}= -3V, I_C= -2.5A)
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= −1.5V(Max)@ (I_C= -2.5A, I_B= -5mA)
- Complement to Type 2SD2079
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

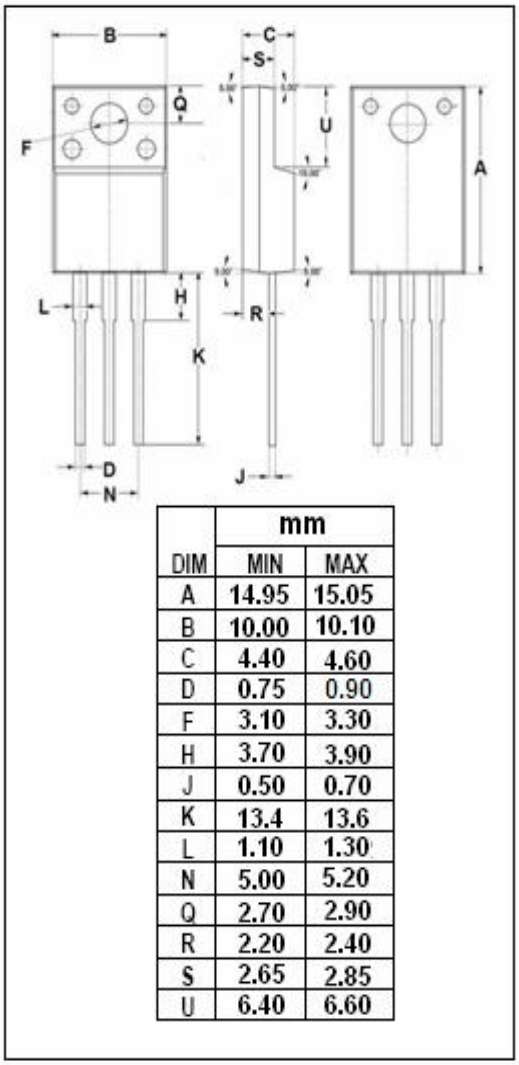


APPLICATIONS

- High power switching applications.
- Hammer drive, pulse motor drive applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak	-8	A
I_B	Base Current-Continuous	-0.5	A
P_C	Collector Power Dissipation @T_a=25℃	2	W
	Collector Power Dissipation @T_C=25℃	30	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

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ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= -30mA; I_B= 0	-100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= -2.5A; I_B= -5mA			-1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= -5A; I_B= -20mA			-3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= -2.5A; I_B= -5mA			-2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= -100V; I_E= 0			-100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -6V; I_C= 0			-2.5	mA
h_{FE-1}	DC Current Gain	I_C= -2.5A; V_{CE}= -3V	1500		15000	
h_{FE-2}	DC Current Gain	I_C= -7A; V_{CE}= -3V	500			
Switching Times						
t_{on}	Turn-on Time	I_C= -2.5A, I_{B1}= -I_{B2}= -5mA, V_{CC}≈ -25V; R_L= 10Ω		0.8		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			2.0		μs

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