New Jersey Semi-Conductor Products, Inc.

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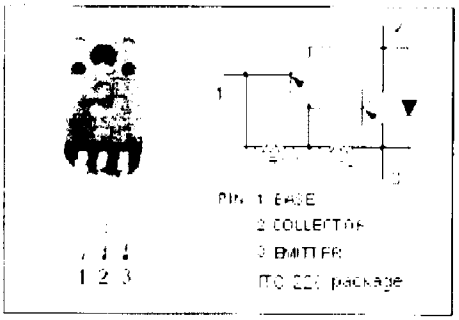
Silicon PNP Darlingtion Power Transistor — 2SB1284

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1500(Min.)@I_C= -5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= -100V(Min.)
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= -1.5V(Max)@I_C= -5A

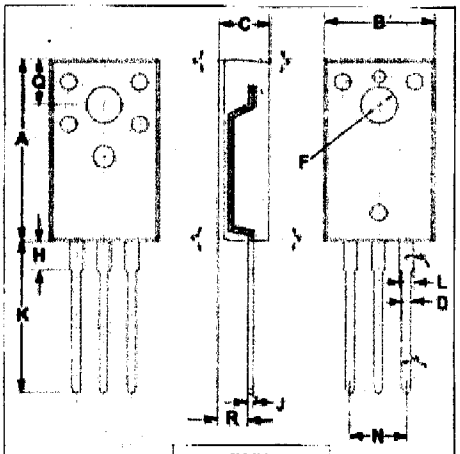
APPLICATIONS

- 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	-10	A
I_{CM}	Collector Current-Peak	-15	A
I_B	Base Current-Continuous	-0.8	A
I_{BM}	Base Current-Peak	-1.5	A
P_C	Total Power Dissipation @ T_C=25℃	35	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	16.70	17.00
B	9.80	10.20
C	4.40	4.80
D	0.70	0.90
E	3.20	3.40
F	2.50	2.70
G	0.50	0.70
H	13.80	14.20
J	1.10	1.30
K	4.98	5.18
L	4.00	4.40
N	2.60	2.80

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\,j\text{-}c}$	Thermal Resistance Junction to Case	3.57	℃/W

Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= -5A; I_B= -10mA			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= -5A; I_B= -10mA			-2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= -100V; I_E= 0			-100	μA
I_{CEO}	Collector Cutoff Current	V_{CE}= -100V; I_B= 0			-100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -7V; I_C= 0			-5	mA
h_{FE}	DC Current Gain	I_C= -5A; V_{CE}= -3V	1500		15000	
f_T	Current-Gain—Bandwidth Product	I_C= -1A; V_{CE}= -10V		20		MHz

Switching times

t_{on}	Turn-on Time	I_C= -5A; I_{B1}= -I_{B2}= -10mA; R_L= 6Ω; V_{BB2}= -4V			1.0	μs
t_{stg}	Storage Time				4.0	μs
t_f	Fall Time				2.0	μs