New Jersey Semi-Conductor Products, Inc.

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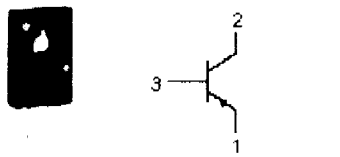
Silicon PNP Power Transistors — BD376/378/380

DESCRIPTION

- DC Current Gain-
  : h_{FE}= 20(Min)@ I_C= -1A
- Complement to Type BD375/377/379

APPLICATIONS

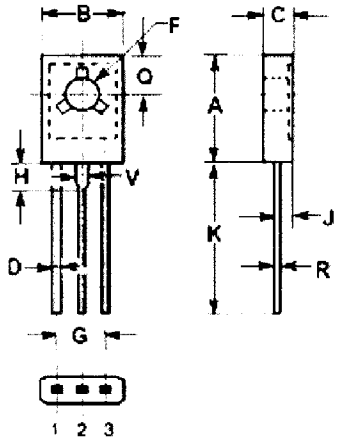
- Designed for medium power linear and switching applications



PIN 1. EMITTER
2. COLLECTOR
3. BASE
TO-126 package

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD376	-50	V
		BD378	-75	
		BD380	-100	
V_{CEO}	Collector-Emitter Voltage	BD376	-45	V
		BD378	-60	
		BD380	-80	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current-Continuous		-2	A
I_{CM}	Collector Current-Peak		-3	A
I_B	Base Current-Continuous		-1	A
P_C	Collector Power Dissipation @ T_C=25℃		25	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-55~150	℃



DIM	mm MIN	mm MAX
A	10.70	10.90
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	16.10	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD376	I_C= -100mA ; I_B= 0	-45			V
		BD378		-60			
		BD380		-80			
V_{CBO}	Collector-Base Voltage	BD376	I_C= -0.1mA ; I_E= 0	-50			V
		BD378		-75			
		BD380		-100			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= -1A; I_B= -0.1A			-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= -1A; V_{CE}= -2V			-1.5	V
I_{CBO}	Collector Cutoff Current	BD376	V_{CB}= -45V; I_E= 0			-2	μA
		BD378	V_{CB}= -60V; I_E= 0			-2	
		BD380	V_{CB}= -80V; I_E= 0			-2	
I_{EBO}	Emitter Cutoff Current		V_{EB}= -5V; I_C= 0			-0.1	mA
h_{FE-1}	DC Current Gain		I_C= -0.15A ; V_{CE}= -2V	40		375	
h_{FE-2}	DC Current Gain		I_C= -1A; V_{CE}= -2V	20			

Switching Times

t_{on}	Turn-On Time	I_C= -0.5A; I_{B1}= -I_{B2}= -50mA; V_{CC}= -30V		0.05		μs
t_{off}	Turn-Off Time			0.5		μs

◆ **h_{FE-1} Classifications**

6	10	16	25
40-100	63-160	100-250	150-375