New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

Silicon NPN Power Transistor

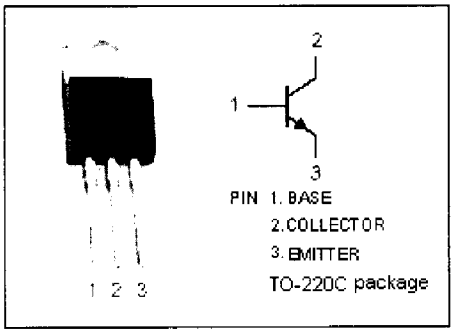
BD239/A/B/C

DESCRIPTION

- DC Current Gain -h_{FE} = 40(Min)@ I_C= 0.2A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 45V(Min)- BD239; 60V(Min)- BD239A
  80V(Min)- BD239B; 100V(Min)- BD239C
- Complement to Type BD240/A/B/C

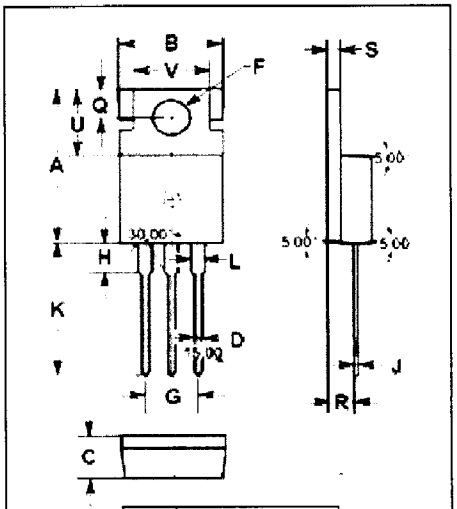
APPLICATIONS

- Designed for medium power linear and switching applications.



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	BD239	55	V
		BD239A	70	
		BD239B	90	
		BD239C	115	
V_{CEO}	Collector-Emitter Voltage	BD239	45	V
		BD239A	60	
		BD239B	80	
		BD239C	100	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		2	A
I_{CM}	Collector Current-Peak		4	A
I_B	Base Current		0.6	A
P_C	Collector Power Dissipation @ T_C=25℃		30	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	4.17	℃/W

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD239	I_C= 30mA; I_B= 0	45		V
		BD239A		60		
		BD239B		80		
		BD239C		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 1A; I_B= 0.2A		0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 1A; V_{CE}= 4V		1.3	V
I_{CES}	Collector Cutoff Current	BD239	V_{CE}= 45V; V_{BE}= 0		0.2	mA
		BD239A	V_{CE}= 60V; V_{BE}= 0			
		BD239B	V_{CE}= 80V; V_{BE}= 0			
		BD239C	V_{CE}= 100V; V_{BE}= 0			
I_{CEO}	Collector Cutoff Current	BD239/A	V_{CE}= 30V; I_B= 0		0.3	mA
		BD239B/C	V_{CE}= 60V; I_B= 0			
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C=0		1.0	mA
h_{FE-1}	DC Current Gain		I_C= 0.2A; V_{CE}= 4V	40		
h_{FE-2}	DC Current Gain		I_C= 1A; V_{CE}= 4V	15		