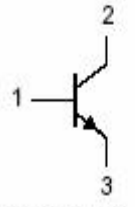
isc Silicon NPN Power Transistor — BD241/A/B/C

DESCRIPTION

- DC Current Gain -h_{FE} = 25(Min)@ I_C= 1.0A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 45V(Min)- BD241; 60V(Min)- BD241A
  80V(Min)- BD241B; 100V(Min)- BD241C
- Complement to Type BD242/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



PIN 1. BASE
2.COLLECTOR
3. EMITTER
TO-220C package

APPLICATIONS

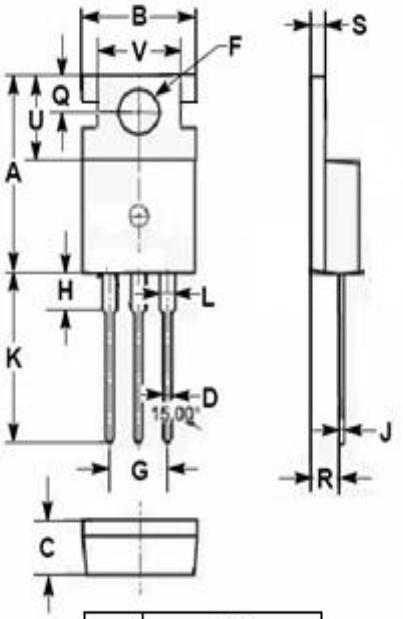
- Designed for use in general purpose power amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD241	55	V
		BD241A	70	
		BD241B	90	
		BD241C	115	
V_{CEO}	Collector-Emitter Voltage	BD241	45	V
		BD241A	60	
		BD241B	80	
		BD241C	100	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		3.0	A
I_{CM}	Collector Current-Peak		5.0	A
I_B	Base Current		1.0	A
P_C	Collector Power Dissipation @ T_C=25℃		40	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	3.125	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

isc Silicon NPN Power Transistor BD241/A/B/C

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD241	I_C= 30mA ;I_B= 0	45		V
		BD241A		60		
		BD241B		80		
		BD241C		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 3A; I_B= 0.6A		1.2	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 3A ; V_{CE}= 4V		1.8	V
I_{CES}	Collector Cutoff Current	BD241	V_{CE}= 45V; V_{BE}= 0		0.2	mA
		BD241A	V_{CE}= 60V; V_{BE}= 0			
		BD241B	V_{CE}= 80V; V_{BE}= 0			
		BD241C	V_{CE}= 100V; V_{BE}= 0			
I_{CEO}	Collector Cutoff Current	BD241/A	V_{CE}= 30V;I_B= 0		0.3	mA
		BD241B/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= 1A ; V	25		
h_{FE-2}	DC Current Gain		I_C= 3A ; V_{CE}= 4V	10		
f_T	Current-Gain—Bandwidth Product		I_C= 0.5A ; V_{CE}= 10V, f_{test}= 1.0MHz	3.0		MHz