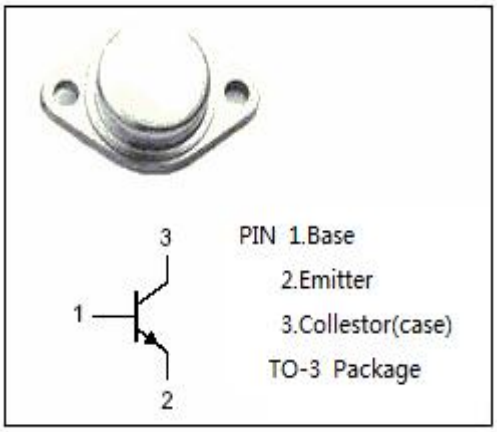
isc Silicon NPN Power Transistor — BDY57

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 80V(Min)
- High Power Dissipation
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

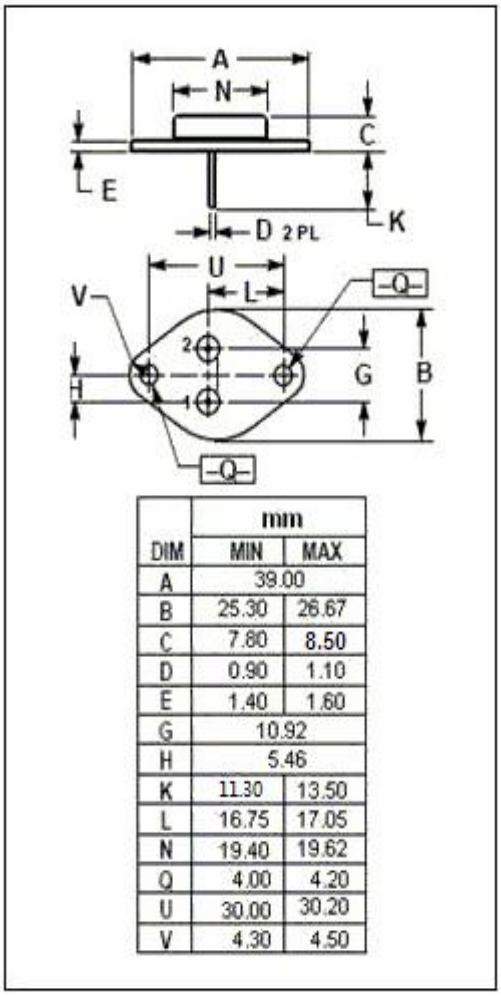
- LF signal power amplification.
- High current fast switching

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	25	A
I_B	Base Current-Continuous	6	A
P_C	Collector Power Dissipation @T_C=25℃	175	W
T_J	Junction Temperature	200	℃
T_{stg}	Storage Temperature Range	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.0	℃/W



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

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ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA ; I_B= 0	80			V
$V_{(BR)CBO}$	Collector- Base Breakdown Voltage	I_C= 1mA ; I_E= 0	120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA ; I_C= 0	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A			1.4	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			0.5	mA
I_{CER}	Collector Cutoff Current	V_{CE}= 80V; R_{BE}= 10Ω V_{CE}= 80V; R_{BE}= 10Ω ; T_C=100℃			0.5 10	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 10V; I_C= 0			0.5	mA
h_{FE-1}	DC Current Gain	I_C= 10A ; V_{CE}= 4V	20		80	
h_{FE-2}	DC Current Gain	I_C= 20A ; V_{CE}= 4V		15		
f_T	Current-Gain—Bandwidth Product	I_C= 1A ; V_{CE}= 15V; f= 10MHz	10			MHz
Switching Times						
t_{on}	Turn-On Time	I_C= 15A , I_B = 1.5A,			1.0	μs
t_{off}	Turn-Off Time	I_C= 15A , I_{B1} = -I_{B2} = 1.5A,			2.0	μs

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