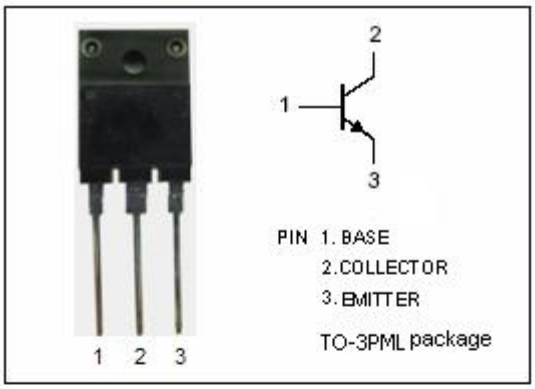
isc Silicon NPN Power Transistor — BUF410AI

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 450V(Min.)
- High Speed Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

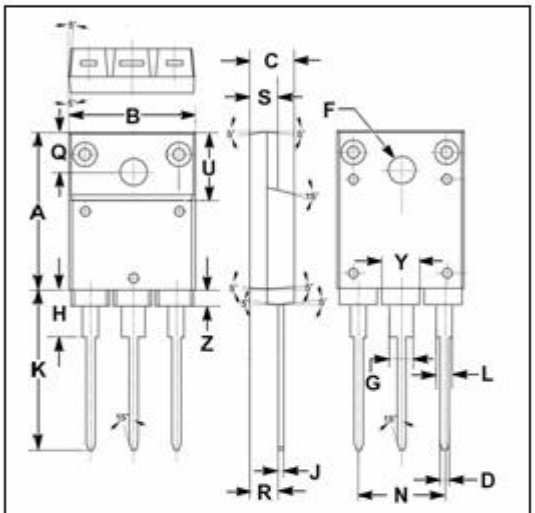
- Designed for use in high-frequency power supplies and motor control applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage V_{BE}= -1.5V	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	3	A
I_{BM}	Base Current-peak	4.5	A
P_C	Collector Power Dissipation @T_C=25℃	85	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	3.2	℃/W



DIM	mm MIN	MAX
A	19.90	20.10
B	15.75	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.20
H	5.90	6.10
J	0.595	0.70
K	21.10	22.50
L	1.90	2.25
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.60
U	9.90	10.10
Y	4.20	4.90
Z	1.90	2.10

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=50mA; I_B= 0	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A		0.8		V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 2A		0.5		V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A		0.9		V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 2A		1.1		V
I_{CER}	Collector Cutoff Current	V_{CE}=V_{CEV}; R_{BE}= 100Ω V_{CE}=V_{CEV}; R_{BE}= 100Ω;T_C=100℃			0.2 1.0	mA
I_{CEV}	Collector Cutoff Current	V_{CE}= V_{CEV}; V_{BE}= -1.5V V_{CE}= V_{CEV}; V_{BE}= -1.5V;T_C=100℃			0.2 1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			1.0	mA
Switching Times; Resistive Load						
t_s	Storage Time	I_C= 5A;I_{B1}= 0.5A;V_{CC}= 50V; V_{BB}= -5V, R_{BB}= 1.2Ω;L= 0.5mH V_{clamp}= 400V		0.8		μs
t_f	Fall Time			0.05		μs

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