

ISC Silicon NPN Power Transistor

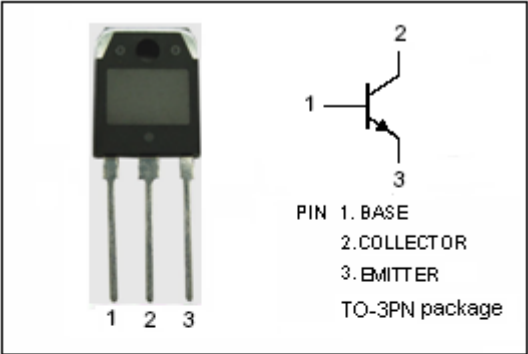
BUF410

DESCRIPTION

- High Voltage
- High Speed Switching

APPLICATIONS

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

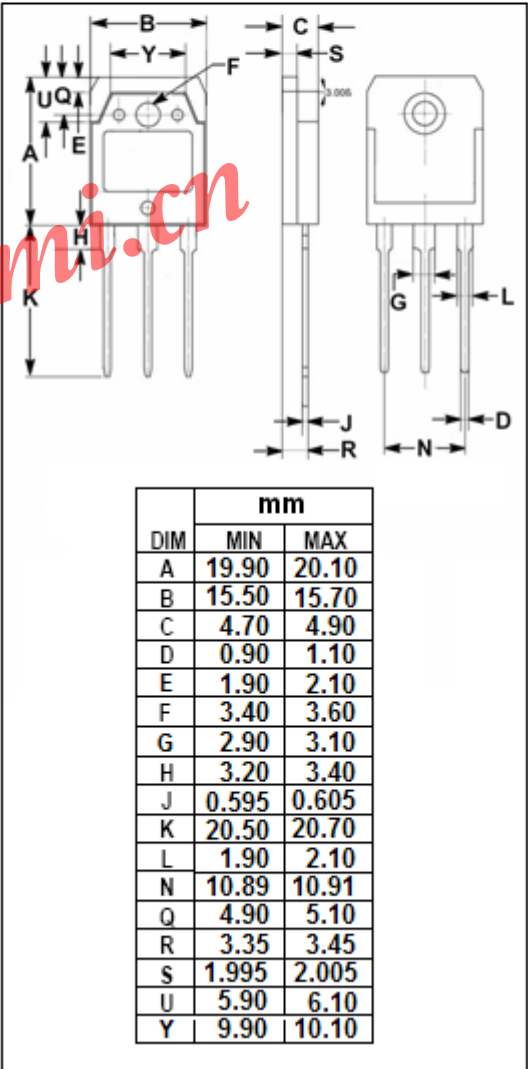


ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CEV}	Collector-Emitter Voltage V _{BE} = -1.5V	850	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°C	125	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.0	°C/W



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}$; $I_B=0$; $L=25\text{mH}$	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}$; $I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=0.5\text{A}$		0.8		V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=2\text{A}$		0.5		V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=0.5\text{A}$		0.9		V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=2\text{A}$		1.1		V
I_{CER}	Collector Cutoff Current	$V_{CE}=V_{CEV}$; $R_{BE}=100\Omega$ $V_{CE}=V_{CEV}$; $R_{BE}=100\Omega$; $T_C=100^{\circ}\text{C}$			0.2 1.0	mA
I_{CEV}	Collector Cutoff Current	$V_{CE}=V_{CEV}$; $V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CEV}$; $V_{BE}=-1.5\text{V}$; $T_C=100^{\circ}\text{C}$			0.2 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			1.0	mA

Switching Times; Resistive Load

t_s	Storage Time	$I_C=5\text{A}$; $I_{B1}=0.5\text{A}$; $V_{CC}=50\text{V}$; $V_{BB}=-5\text{V}$; $R_{BB}=1.2\Omega$; $L=0.5\text{mH}$ $V_{clamp}=400\text{V}$		0.8		μS
t_f	Fall Time			0.05		μS