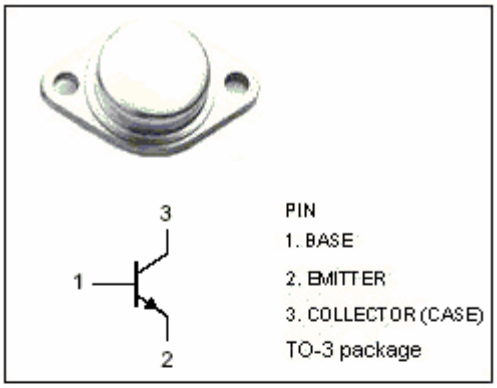
isc Silicon NPN Power Transistors BUX82/83

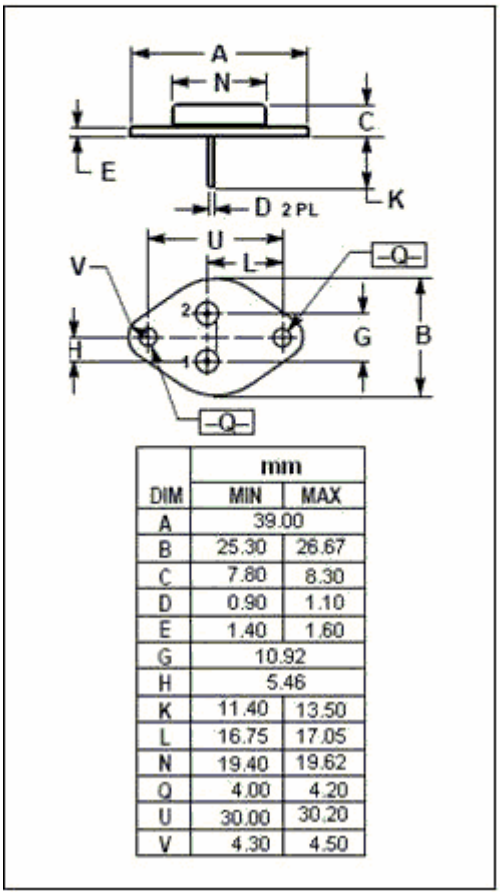
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 400V(Min)-BUX82
  = 450V(Min)-BUX83
- High Switching Speed

APPLICATIONS

- Designed for use as high-speed power switch at high voltage.





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	BUX82	800	V
		BUX83	1000	
V_{CEO}	Collector-Emitter Voltage	BUX82	400	V
		BUX83	450	
V_{CER}	Collector-Emitter Voltage R_{BE}= 50Ω	BUX82	500	V
		BUX83	500	
V_{EBO}	Emitter-Base Voltage		10	V
I_C	Collector Current-Continuous		6	A
I_{CM}	Collector Current-Peak		8	A
I_B	Base Current-Continuous		2	A
I_{BM}	Base Current-Peak		3	A
P_C	Collector Power Dissipation @T_C=25℃		75	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.65	℃/W

isc Silicon NPN Power Transistors BUX82/83

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BUX82	I_C= 100mA ; I_B= 0; L= 25mH	400			V
		BUX83		450			
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	BUX82	I_C= 100mA ; R_{BE}= 100Ω ; L= 15mH	500			V
		BUX83		500			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	BUX82	I_C= 4A; I_B= 1.25A			3.0	V
		BUX83				1.6	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	BUX82	I_C= 2.5A; I_B= 0.5A			1.5	V
		BUX83				1.4	
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage		I_C= 4A; I_B= 1.25A			1.6	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage		I_C= 2.5A; I_B= 0.5A			1.4	V
I_{CES}	Collector Cutoff Current	BUX82	V_{CES}=800V; $V_{BE(off)}$= 1.5V V_{CES}=800V; $V_{BE(off)}$= 1.5V,T_C=125℃			1.0 2.0	mA
		BUX83	V_{CES}=1000V;$V_{BE(off)}$=1.5V V_{CES}=1000V;$V_{BE(off)}$=1.5V,T_C=125℃			1.0 2.0	
I_{EBO}	Emitter Cutoff Current		V_{EB}= 10V; I_C=0			10	mA
h_{FE}	DC Current Gain		I_C= 1.2A ; V_{CE}= 5V		30		
C_{OB}	Output Capacitance		I_E= 0;V_{CB}= 10V;f_{test}= 1MHz			500	pF
f_T	Current-Gain--Bandwidth Product		I_C= 0.2A ; V_{CE}= 10V ;f_{test}= 1MHz		6		MHz

Switching Times

t_{on}	Turn-On Time	I_C= 2.5A; I_{B1}= 0.5A;I_{B2}= -1A; V_{CC}= 250V		0.3	0.5	μs
t_{stg}	Storage Time			2.0	3.5	μs
t_f	Fall Time			0.3		μs