

Silicon NPN Power Transistors

BUX82/83

DESCRIPTION

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

APPLICATIONS

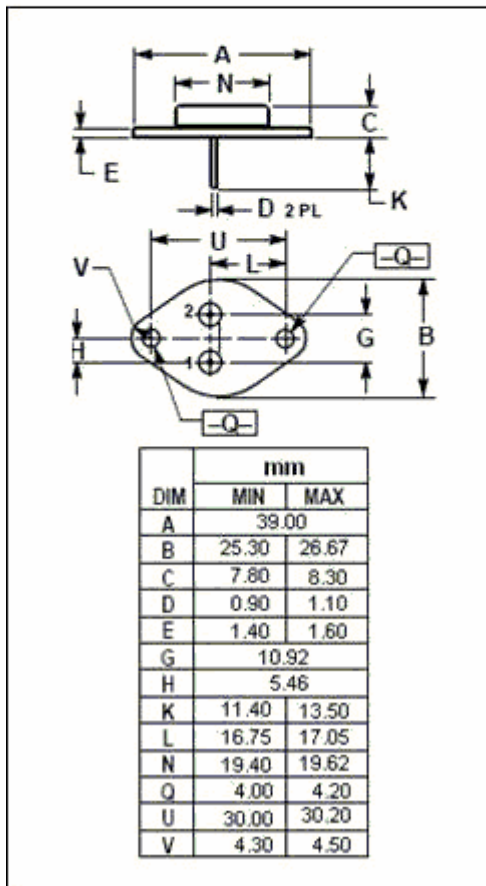
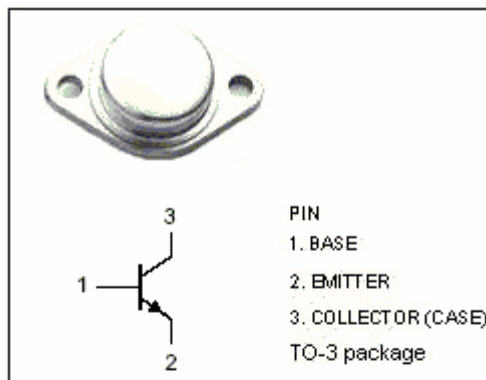
- Designed for use as high-speed power switch at high voltage.

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 $R_{BE} = 50$	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
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.65	/W



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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} = 100 ; 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 _{CE(s)} =800V; V _{BE(off)} = 1.5V V _{CE(s)} =800V; V _{BE(off)} = 1.5V, T _C =125			1.0 2.0	mA
		BUX83		V _{CE(s)} =1000V; V _{BE(off)} =1.5V V _{CE(s)} =1000V; V _{BE(off)} =1.5V, T _C =125			
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