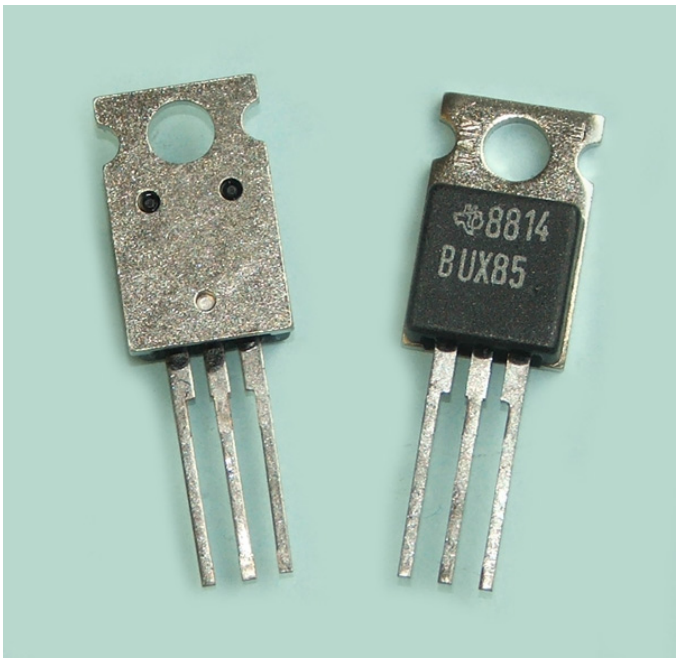
TR BUX85;TO220;tranzystor; NPN;2A;450V;400ns;



Dane techniczne:
Nazwa: BUX85
Typ tranzystora: bipolarny
Kierunek przewodnictwa: NPN
Prąd kolektora: 2A
Napięcie kolektor-emiter: 450V
Montaż: przewlekany(THT)
Obudowa: TO220

BUX85

SWITCHMODE™ NPN Silicon Power Transistors

The BUX85 is designed for high voltage, high speed power switching applications like converters, inverters, switching regulators, motor control systems.

Features

- $V_{CEO(sus)}$ − 450 V
- $V_{CES(sus)}$ − 1000 V
- Fall time = 0.3 μs (typ) at I_C = 1.0 A
- $V_{CE(sat)}$ = 1.0 V (max) at I_C = 1.0 A, I_B = 0.2 A
- Pb−Free Package is Available*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector−Emitter Voltage	$V_{CEO(sus)}$	450	Vdc
Collector−Emitter Voltage	V_{CES}	1000	Vdc
Emitter−Base Voltage	V_{EBO}	5	Vdc
Collector Current − Continuous − Peak (Note 1)	I_C I_{CM}	2 3.0	Adc
Base Current − Continuous − Peak (Note 1)	I_B I_{BM}	0.75 1.0	Adc
Reverse Base Current − Peak	I_{BM}	1	Adc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	50 400	W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +150	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	2.5	°C/W
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	62.5	°C/W
Maximum Lead Temperature for Soldering Purposes 1/8″ from Case for 5 Seconds	T_L	275	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

1. Pulse Test: Pulse Width = 5 ms, Duty Cycle ≦ 10%.

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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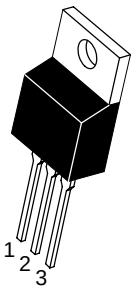
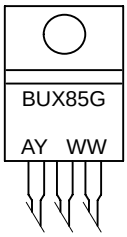
2.0 AMPERES POWER TRANSISTOR NPN SILICON 450 VOLTS, 50 WATTS



TO−220AB
CASE 221A−09
STYLE 1

MARKING DIAGRAM



BUX85 = Device Code
A = Assembly Location
Y = Year
WW = Work Week
G = Pb−Free Package

ORDERING INFORMATION

Device	Package	Shipping
BUX85	TO−220	50 Units / Rail
BUX85G	TO−220 (Pb−Free)	50 Units / Rail

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS (Note 2)						
Collector−Emitter Sustaining Voltage (I_C = 100 mAdc, (L = 25 mH) See Figure 1		$V_{CEO(sus)}$	450	−	−	Vdc
Collector Cutoff Current (V_{CES} = Rated Value) (V_{CES} = Rated Value, T_C = 125°C)		I_{CES}	 − −	 − −	 0.2 1.5	mAdc
Emitter Cutoff Current (V_{EB} = 5 Vdc, I_C = 0)		I_{EBO}	−	−	1	mAdc
ON CHARACTERISTICS (Note 2)						
DC Current Gain (I_C = 0.1 Adc, V_{CE} = 5 V)		h_{FE}	30	50	−	−
Collector−Emitter Saturation Voltage (I_C = 0.3 Adc, I_B = 30 mAdc) (I_C = 1 Adc, I_B = 200 mAdc)		$V_{CE(sat)}$	 − −	 − −	 0.8 1	Vdc
Base−Emitter Saturation Voltage (I_C = 1 Adc, I_B = 0.2 Adc)		$V_{BE(sat)}$	−	−	1.1	Vdc
DYNAMIC CHARACTERISTICS						
Current−Gain − Bandwidth Product (I_C = 500 mAdc, V_{CE} = 1 0 Vdc, f = 1 MHz)		f_T	4	−	−	MHz
SWITCHING CHARACTERISTICS						
Turn−on Time	V_{CC} = 250 Vdc, I_C = 1 A I_{B1} = 0.2 A, I_{B2} = 0.4 A See Figure 2	t_{on}	−	0.3	0.5	μs
Storage Time		t_s	−	2	3.5	μs
Fall Time		t_f	−	0.3	−	μs
Fall Time	Same above cond. at T_C = 95°C	t_f	−	−	1.4	μs

2. Pulse Test: PW = 300 μs, Duty Cycle ≦2%.

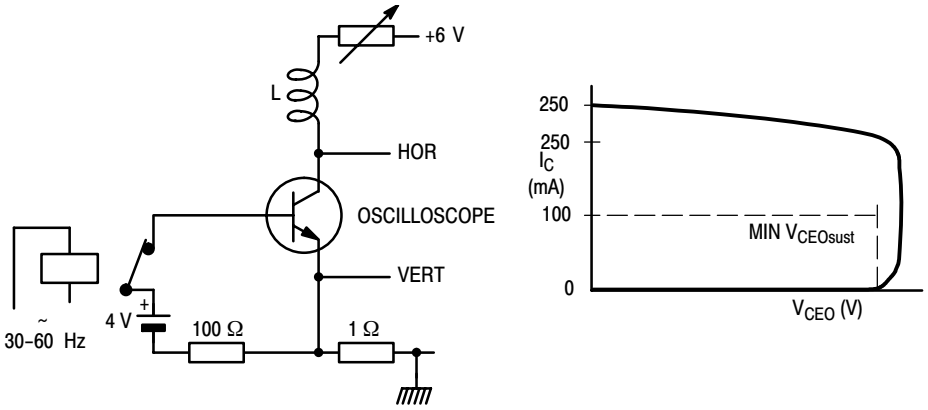


Figure 1. Test Circuit for $V_{CEOsust}$

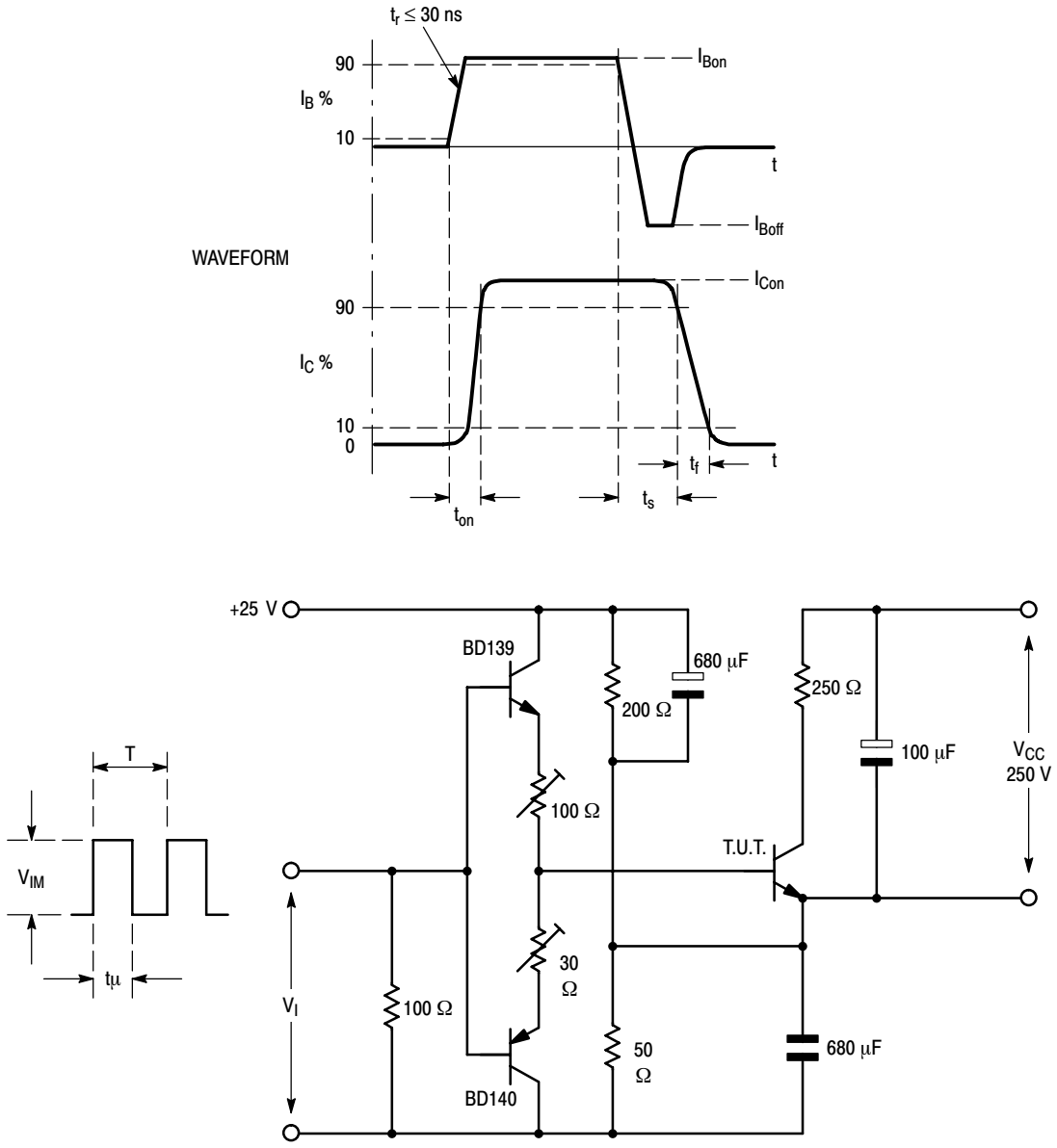
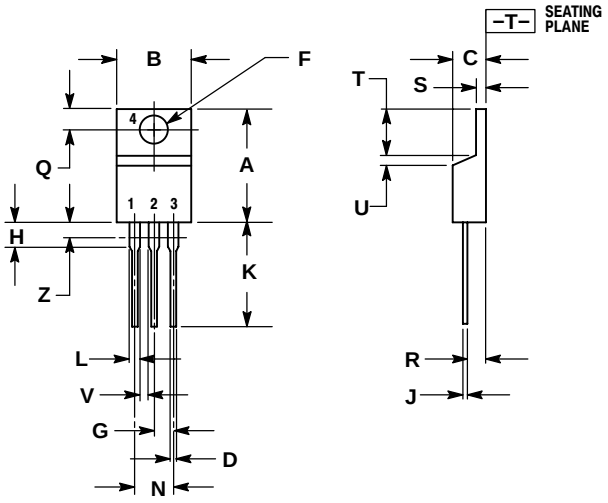


Figure 2. Switching Times/Test Circuit

BUX85

PACKAGE DIMENSIONS

TO−220AB
CASE 221A−09
ISSUE AA



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

STYLE 1:
PIN 1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

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