BUV26

Switchmode Series NPN Silicon Power Transistor

Designed for high−speed applications.

Features

- Switchmode Power Supplies
- High Frequency Converters
- Relay Drivers
- Driver
- Pb−Free Package is Available*

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Collector−Emitter Voltage	$V_{CEO(sus)}$	90	Vdc
Collector−Base Voltage	V_{CBO}	180	Vdc
Emitter−Base Voltage	V_{EBO}	7.0	Vdc
Collector Current − Continuous − Peak (pw 10 ms)	I_C I_{CM}	20 30	Adc Apk
Base Current − Continuous	I_B I_{BM}	4.0 6.0	Adc Adc
Total Power Dissipation @ T_C = 25°C Total Power Dissipation @ T_C = 60°C	P_D P_D	85 65	W W
Operating and Storage Junction Temperature Range	T_J, T_{stg}	− 65 to +175	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	1.76	°C/W

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

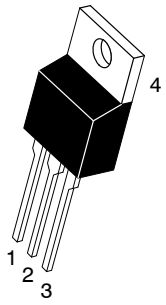
*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor®

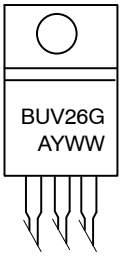
http://onsemi.com

12 AMPERES
NPN SILICON
POWER TRANSISTORS
90 VOLTS, 85 WATTS

MARKING DIAGRAM



TO−220AB
CASE 221A
STYLE 1



BUV26 = Device Code
A = Assembly Location
Y = Year
WW = Work Week
G = Pb−Free Package

ORDERING INFORMATION

Device	Package	Shipping
BUV26	TO−220	50 Units / Rail
BUV26G	TO−220 (Pb−Free)	50 Units / Rail

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector−Emitter Sustaining Voltage (I_C = 200 mA, I_B = 0, L = 25 mH)	$V_{CEO(sus)}$	90	–	Vdc
Collector Cutoff Current at Reverse Bias (V_{CE} = 180 V, V_{BE} = −1.5 V, T_C = 125°C)	I_{CEX}	–	1.0	mAdc
Emitter Base Reverse Voltage (I_E = 50 mA)	V_{EBO}	7.0	30	V
Emitter Cutoff Current (V_{EB} = 5.0 V)	I_{EBO}	–	1.0	mAdc
Collector Cutoff Current (V_{CE} = 180 V, R_{BE} = 50 Ω, T_C = 125°C)	I_{CER}	–	3.0	mAdc
ON CHARACTERISTICS				
Collector−Emitter Saturation Voltage (I_C = 6.0 A, I_B = 0.4 A) (I_C = 12 A, I_B = 1.2 A)	$V_{CE(sat)}$	– –	0.6 1.5	Vdc
Base−Emitter Saturation Voltage (I_C = 12 A, I_B = 1.2 A)	$V_{BE(sat)}$	–	2.0	Vdc
SWITCHING CHARACTERISTICS (Resistive Load)				
Turn On Time	I_C = 12 A, I_B = 1.2 A	t_{on}	–	0.6	μs
Storage Time	V_{CC} = 50 V, V_{BE} = 6.0 V	t_s	–	1.0	
Fall Time	RB2 = 2.5 Ω	t_f	–	0.15	
SWITCHING CHARACTERISTICS (Inductive Load)				
Storage Time	V_{CC} = 50 V, I_C = 12 A $I_{B(end)}$ = 1.2 A, V_B = 5.0 V L_B = 0.5 pH, T_J = 125°C	T_s	–	2.0	μs
Fall Time		T_f	–	.15	

1. Pulse Test: Pulse width ≤ 300 μs; Duty cycle ≤ 2%.

TYPICAL CHARACTERISTICS

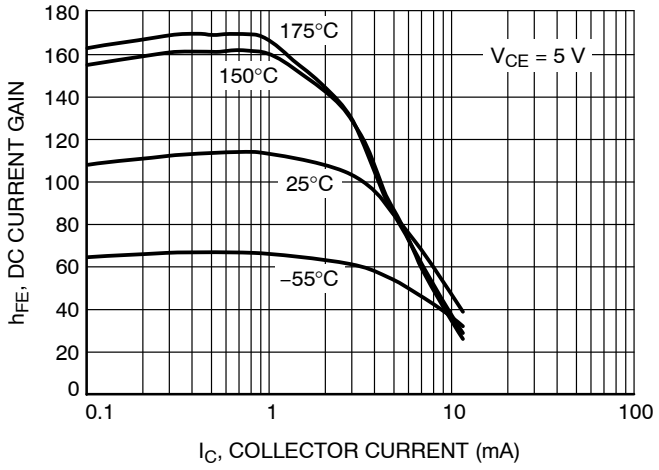


Figure 1. DC Current Gain

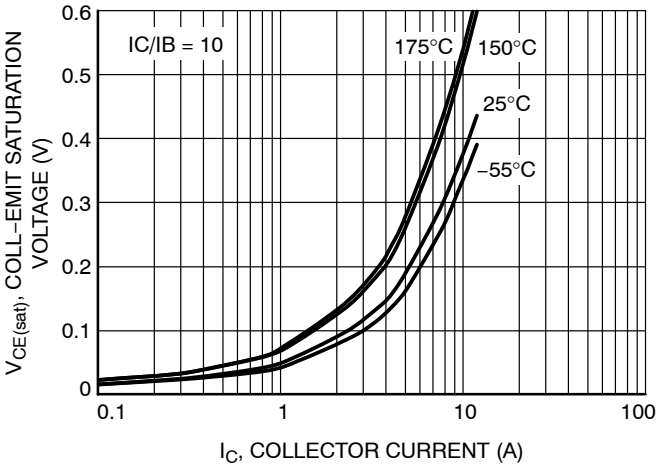


Figure 2. Collector−Emitter Saturation Voltage

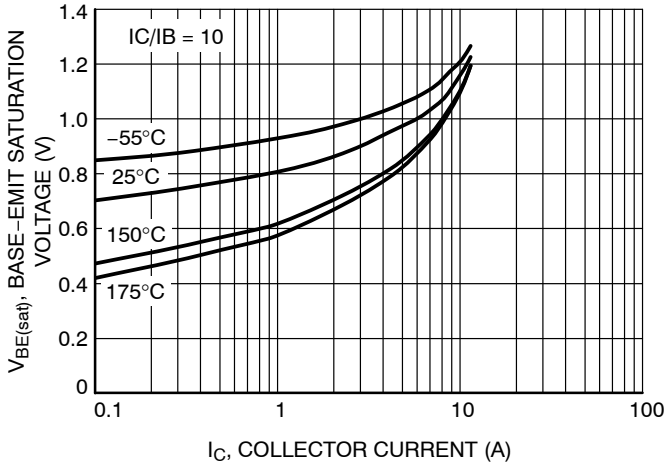


Figure 3. Base−Emitter Saturation Voltage

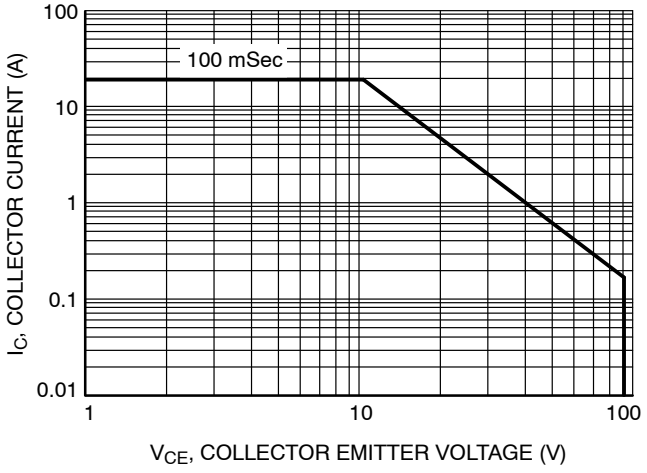
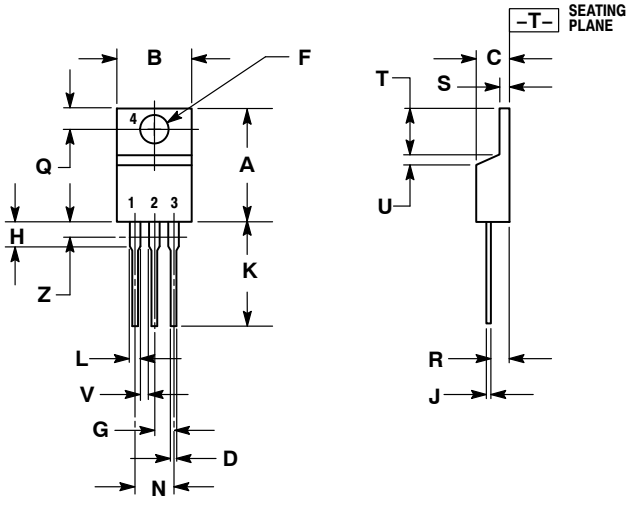


Figure 4. Safe Operating Area

PACKAGE DIMENSIONS

TO−220
CASE 221A−09
ISSUE AG



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	0.036	0.64	0.91
F	0.142	0.161	3.61	4.09
G	0.095	0.105	2.42	2.66
H	0.110	0.161	2.80	4.10
J	0.014	0.025	0.36	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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81−3−5817−1050

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

BUV26/D