

# 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 ( $T_J = 25^\circ\text{C}$ 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 @ $T_C = 25^\circ\text{C}$ Total Power Dissipation @ $T_C = 60^\circ\text{C}$	$P_D$ $P_D$	85 65	W W
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.76	$^\circ\text{C/W}$

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.

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

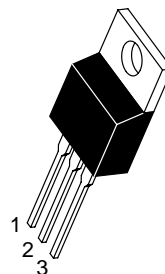


ON Semiconductor®

<http://onsemi.com>

**12 AMPERES  
NPN SILICON  
POWER TRANSISTORS  
90 VOLTS, 85 WATTS**

### MARKING DIAGRAM



TO-220  
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

# BUV26

## ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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### OFF CHARACTERISTICS

Collector–Emitter Sustaining Voltage ( $I_C = 200\text{ mA}$ , $I_B = 0$ , $L = 25\text{ mH}$ )	$V_{CEO(sus)}$	90	–	Vdc
Collector Cutoff Current at Reverse Bias ( $V_{CE} = 180\text{ V}$ , $V_{BE} = -1.5\text{ V}$ , $T_C = 125^\circ\text{C}$ )	$I_{CEX}$	–	1.0	mAdc
Emitter Base Reverse Voltage ( $I_E = 50\text{ mA}$ )	$V_{EBO}$	7.0	30	V
Emitter Cutoff Current ( $V_{EB} = 5.0\text{ V}$ )	$I_{EBO}$	–	1.0	mAdc
Collector Cutoff Current ( $V_{CE} = 180\text{ V}$ , $R_{BE} = 50\ \Omega$ , $T_C = 125^\circ\text{C}$ )	$I_{CER}$	–	3.0	mAdc

### ON CHARACTERISTICS

Collector–Emitter Saturation Voltage ( $I_C = 6.0\text{ A}$ , $I_B = 0.4\text{ A}$ ) ( $I_C = 12\text{ A}$ , $I_B = 1.2\text{ A}$ )	$V_{CE(sat)}$	– –	0.6 1.5	Vdc
Base–Emitter Saturation Voltage ( $I_C = 12\text{ A}$ , $I_B = 1.2\text{ A}$ )	$V_{BE(sat)}$	–	2.0	Vdc

### SWITCHING CHARACTERISTICS (Resistive Load)

Turn On Time	$I_C = 12\text{ A}$ , $I_B = 1.2\text{ A}$ $V_{CC} = 50\text{ V}$ , $V_{BE} = 6.0\text{ V}$ $R_{B2} = 2.5\ \Omega$	$t_{on}$	–	0.6	$\mu\text{s}$
Storage Time		$t_s$	–	1.0	
Fall Time		$t_f$	–	0.15	

### SWITCHING CHARACTERISTICS (Inductive Load)

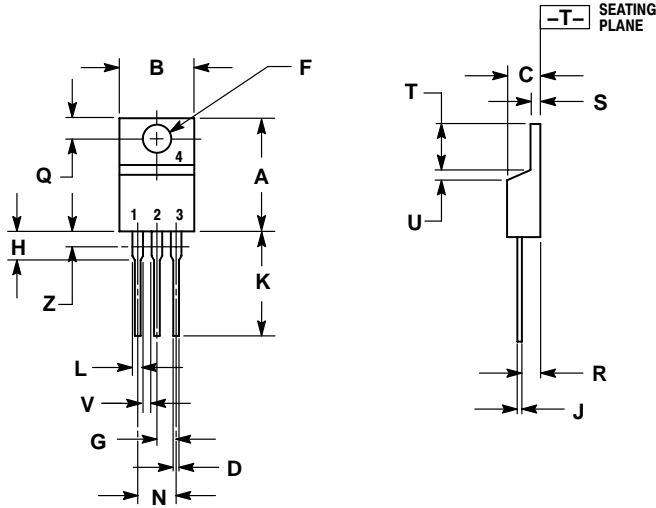
Storage Time	$V_{CC} = 50\text{ V}$ , $I_C = 12\text{ A}$ $I_{B(end)} = 1.2\text{ A}$ , $V_B = 5.0\text{ V}$ $L_B = 0.5\ \mu\text{H}$ , $T_J = 125^\circ\text{C}$	$T_s$	–	2.0	$\mu\text{s}$
Fall Time		$T_f$	–	.15	

1. Pulse Test: Pulse width  $\leq 300\ \mu\text{s}$ ; Duty cycle  $\leq 2\%$ .

# BUV26

## PACKAGE DIMENSIONS

TO-220  
CASE 221A-07  
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.

DIM	INCHES		MILLIMETERS	
	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	0.014	0.022	0.36	0.55
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:

1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

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