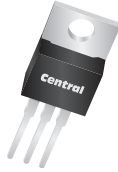


**BU806  
BU807**

**NPN SILICON  
DARLINGTON TRANSISTOR**



**TO-220 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BU806 and BU807 types are NPN Silicon Darlington Transistors designed for high voltage, high current, fast switching applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_C=25^\circ\text{C}$ )

Collector-Base Voltage
Collector-Emitter Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance
Thermal Resistance

SYMBOL	BU806	BU807	UNITS
$V_{CBO}$	400	330	V
$V_{CEV}$	400	330	V
$V_{CEO}$	200	150	V
$V_{EBO}$		6.0	V
$I_C$		8.0	A
$I_{CM}$		15	A
$I_B$		2.0	A
$P_D$		60	W
$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
$\Theta_{JA}$		70	$^\circ\text{C/W}$
$\Theta_{JC}$		2.08	$^\circ\text{C/W}$

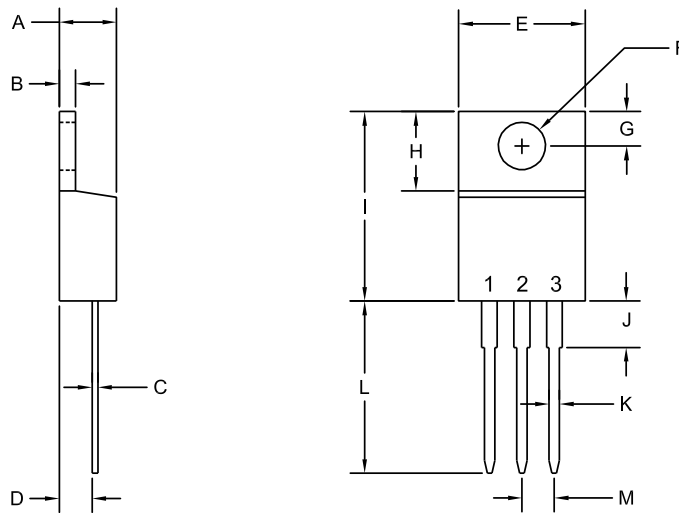
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CES}$	$V_{CE}=400\text{V}$ (BU806)			100	$\mu\text{A}$
$I_{CES}$	$V_{CE}=330\text{V}$ (BU807)			100	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=400\text{V}, V_{EB}=6.0\text{V}$ (BU806)			100	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=330\text{V}, V_{EB}=6.0\text{V}$ (BU807)			100	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=6.0\text{V}$			3.5	mA
$BV_{CEO}$	$I_C=100\text{mA}$ (BU806)	200			V
$BV_{CEO}$	$I_C=100\text{mA}$ (BU807)	150			V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=50\text{mA}$			1.5	V
$V_{BE(SAT)}$	$I_C=5.0\text{A}, I_B=50\text{mA}$			2.4	V
$V_F$	$I_F=4.0\text{A}$			2.0	V
$t_{on}$	$V_{CC}=100\text{V}, I_C=5.0\text{A}, I_{B1}=50\text{mA}, I_{B2}=500\text{mA}$		0.35		$\mu\text{s}$
$t_{off}$	$V_{CC}=100\text{V}, I_C=5.0\text{A}, I_{B1}=50\text{mA}, I_{B2}=500\text{mA}$		0.4	1.0	$\mu\text{s}$

BU806  
 BU807  
 NPN SILICON  
 DARLINGTON TRANSISTOR



TO-220 CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

- 1) Base
- 2) Collector
- 3) Emitter
- Tab) Collector

MARKING:

FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.31	4.82
B	0.045	0.055	1.15	1.39
C	0.013	0.026	0.33	0.65
D	0.083	0.107	2.10	2.72
E	0.394	0.417	10.01	10.60
F (DIA)	0.140	0.157	3.55	4.00
G	0.100	0.118	2.54	3.00
H	0.230	0.270	5.85	6.85
I	0.560	0.625	14.23	15.87
J	-	0.250	-	6.35
K	0.025	0.038	0.64	0.96
L	0.500	0.579	12.70	14.70
M	0.090	0.110	2.29	2.79

TO-220 (REV: R2)

R0 (4-August 2011)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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# Mouser Electronics

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