

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

BU406

BU407

BU408

NPN SILICON POWER TRANSISTOR

JEDEC TO-220 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR BU406 Series types are Silicon NPN High Voltage Power Transistors designed for fast switching, horizontal deflection output stages of monitors.

MAXIMUM RATINGS ( $T_C=25^\circ\text{C}$  unless otherwise noted)

	SYMBOL	BU406	BU407	BU408	UNIT
Collector Base Voltage	$V_{CBO}$	400	330	400	V
Collector Emitter Voltage	$V_{CES}$	400	330	400	V
Collector Emitter Voltage	$V_{CEO}$	200	150	200	V
Emitter Base Voltage	$V_{EBO}$		6.0		V
Collector Current	$I_C$		7.0		A
Collector Current (PEAK)	$I_{CM}$		15		A
Base Current	$I_B$		4.0		A
Power Dissipation	$P_D$		60		W
Operating and Storage Junction Temperature	$T_J, T_{STG}$		-65 TO +150		$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$		2.08		$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{JA}$		70		$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	BU406		BU407		BU408		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{CES}$	$V_{CE}=\text{Rated } V_{CES}$		5.0		5.0		5.0	mA
$I_{CES}$	$V_{CE}=250\text{V}$ (406, 408), $V_{CE}=200\text{V}$ (407)		0.1		0.1		0.1	mA
$I_{CES}$	$V_{CE}=250\text{V}$ (406, 408), $V_{CE}=200\text{V}$ (407), $T_C=150^\circ\text{C}$		1.0		1.0		1.0	mA
$I_{EBO}$	$V_{EB}=6.0\text{V}$		1.0		1.0		1.0	mA
$V_{CE(S)}$	$I_C=5.0\text{A}$ , $I_B=0.5\text{A}$		1.0		1.0		-	V
$V_{CE(S)}$	$I_C=6.0\text{A}$ , $I_B=1.2\text{A}$		-		-		1.0	V
$V_{BE(S)}$	$I_C=5.0\text{A}$ , $I_B=0.5\text{A}$		1.2		1.2		-	V
$V_{BE(S)}$	$I_C=6.0\text{A}$ , $I_B=1.2\text{A}$		-		-		1.5	V
$f_T$	$V_{CE}=10\text{V}$ , $I_C=0.5\text{A}$ , $f=1.0\text{MHz}$	10		10		10		MHz
$t_f$	$V_{CC}=40\text{V}$ , $I_C=5.0\text{A}$ , $I_B=0.5\text{A}$		0.75		0.75		-	$\mu\text{s}$
$t_f$	$V_{CC}=40\text{V}$ , $I_C=6.0\text{A}$ , $I_B=1.2\text{A}$		-		-		0.4	$\mu\text{s}$
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$	80TYP		80TYP		80TYP		pF
$I_s/b$	$V_{CE}=10\text{V}$ , $t=1.0\text{ sec}$	6.0TYP		6.0TYP		6.0TYP		A

## 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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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