

CentralTM 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_{CB0}	400	330	400	V
Collector Emitter Voltage	V_{CES}	400	330	400	V
Collector Emitter Voltage	V_{CE0}	200	150	200	V
Emitter Base Voltage	V_{EB0}		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	θ_{JC}		2.08		$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		70		$^\circ\text{C/W}$

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_{EB0}	$V_{EB}=6.0\text{V}$		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		-	μs
t_f	$V_{CC}=40\text{V, } I_C=6.0\text{A, } I_B=1.2\text{A}$		-		-		0.4	μs
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