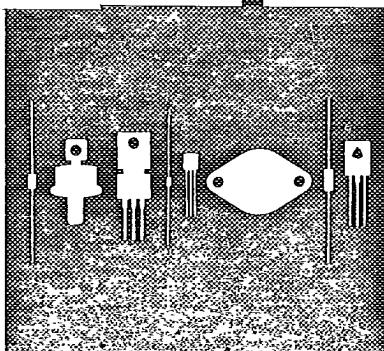


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145 Adams Avenue
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CEN-A44
CEN-A45
CEN-A45A

NPN SILICON TRANSISTOR
- HIGH VOLTAGE

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR CEN-A44, CEN-A45, CEN-A45A types are silicon NPN transistors designed for extremely high voltage applications. These devices are exact equivalents to the MPS-A44, MPS-A45 types except the h_{FE} @ 100mA is 15 minimum instead of 40 minimum.

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

	SYMBOL	CEN-A44	CEN-A45	CEN-A45A	UNIT
Collector-Base Voltage	V_{CB0}	500	400	425	V
Collector-Emitter Voltage	V_{CE0}	400	350	375	V
Emitter-Base Voltage	V_{EB0}	6.0	6.0	6.0	V
Collector Current	I_C		300		mA
Power Dissipation	P_D		625		mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D		1.5		W
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 TO +150			$^\circ\text{C}$
Thermal Resistance	θ_{JA}		200		$^\circ\text{C/W}$
Thermal Resistance	θ_{JC}		83.3		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	CEN-A44		CEN-A45		CEN-A45A		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=400\text{V}$		0.1		-		-	μA
I_{CB0}	$V_{CB}=320\text{V}$		-		0.1		0.1	μA
I_{CES}	$V_{CE}=400\text{V}$		500		-		-	nA
I_{CES}	$V_{CE}=320\text{V}$		-		500		500	nA
I_{EBO}	$V_{EB}=4.0\text{V}$		0.1		0.1		0.1	μA
BV_{CB0}	$I_C=100\mu\text{A}$	500		400		425		V
BV_{CES}	$I_C=100\mu\text{A}$	500		400		425		V
BV_{CE0}	$I_C=1.0\text{mA}$	400		350		375		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		6.0		6.0		V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.4		0.4		0.4	V
$V_{CE}(\text{SAT})$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.5		0.5		0.5	V
$V_{CE}(\text{SAT})$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.75		0.75		0.75	V
$V_{BE}(\text{SAT})$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75		0.75		0.75	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40		40		40		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	50	200	50	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	45		45		45		
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	15		15		15		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$	20		20		20		MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$		6.0		6.0		6.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		110		110		110	pF