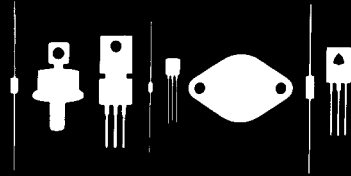


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2N3442

Single Diffused (Hometaxial)
NPN Silicon Power Transistor

JEDEC TO 3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3442 is a Silicon NPN Single Diffused (Hometaxial) High Voltage Power Transistor designed for high voltage, high power amplifier applications.

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

	<u>SYMBOL</u>		<u>UNIT</u>
Collector-Base Voltage	V_{CB0}	160	V
Collector-Emitter Voltage	V_{CEV}	160	V
Collector-Emitter Voltage	V_{CEO}	140	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	10	A
Collector Current (PEAK)	I_{CM}	15	A
Base Current	I_B	7.0	A
Power Dissipation	P_D	117	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 TO +200	$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	1.5	$^{\circ}\text{C}/\text{W}$

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNIT</u>
I_{CEV}	$V_{CE}=140\text{V}, V_{BE}=1.5\text{V}$		5.0	mA
I_{CEO}	$V_{CE}=140\text{V}$		200	mA
I_{EBO}	$V_{BE}=7.0\text{V}$		5.0	mA
BV_{CEO}	$I_C=0.2\text{A}$	140		V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=2.0\text{A}$		5.0	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=10\text{A}$		5.7	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$	20	70	
h_{FE}	$V_{CE}=4.0\text{V}, I_C=10\text{A}$	7.5		
h_{fe}	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}, f=1.0\text{kHz}$	12	72	
f_T	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}, f=40\text{kHz}$	80		kHz