



## BD410

### NPN EPITAXIAL SILICON POWER TRANSISTORS

They are silicon epitaxial planar NPN power transistors mounted in a TO-126 plastic package.  
 AF-amplifier for high supply voltage  
 They are intended for control circuit, vertical output stages in TVsets, and general purpose applications.  
 Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	325	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1	A
$I_{CM}$	Collector Peak Current	1.5	A
$P_T$	Total Power Dissipation	$T_a = 25^\circ\text{C}$	1.25
		$T_c = 25^\circ\text{C}$	20
$t_J$	Junction Temperature	-55 to +125	°C
$t_s$	Storage Temperature range	-55 to +125	
$t_L$	Lead Temperature 1.6 mm From Case For 10 Seconds	260	

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### ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CEO}$	Collector-Emitter Breakdown Voltage (*)	$I_C= 10 \text{ mA}, I_B= 0$	325	-	-	V
$V_{CBO}$	Collector-Base Breakdown Voltage	$I_C= 0.5 \text{ mA}, I_E= 0$	500	-	-	V
$V_{EBO}$	Collector-Base Breakdown Voltage	$I_E= 50 \mu\text{A}, I_C= 0$	5	-	-	V
$I_{CES}$	Collector Cutoff Current	$V_{CE} = 300 \text{ V}, I_B= 0$	-	-	100	$\mu\text{A}$
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C= 100 \text{ mA}, I_B= 10 \text{ mA}$	-	-	0.5	V
$V_{BE}$	Base-Emitter Voltage (*)	$I_C= 100 \text{ mA}, I_B= 10 \text{ mA}$	-	-	1.5	V
$h_{FE}$	DC Current Gain (*)	$I_C= 5 \text{ mA}, V_{CE}= 10 \text{ V}$	25	-	-	-
		$I_C= 50 \text{ mA}, V_{CE}= 10 \text{ V}$	30	-	240	
		$I_C= 100 \text{ mA}, V_{CE}= 10 \text{ V}$	20	-	-	

### SWITCHING TIMES.

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$C_{obo}$	Output Capacitance	$I_E= 0, V_{CB}= 10 \text{ V}, f= 1 \text{ MHz}$	-	5.5	-	pF
$C_{ibo}$	Input Capacitance	$I_E= 0, V_{CB}= 0.5 \text{ V}, f= 1 \text{ MHz}$	-	90	-	

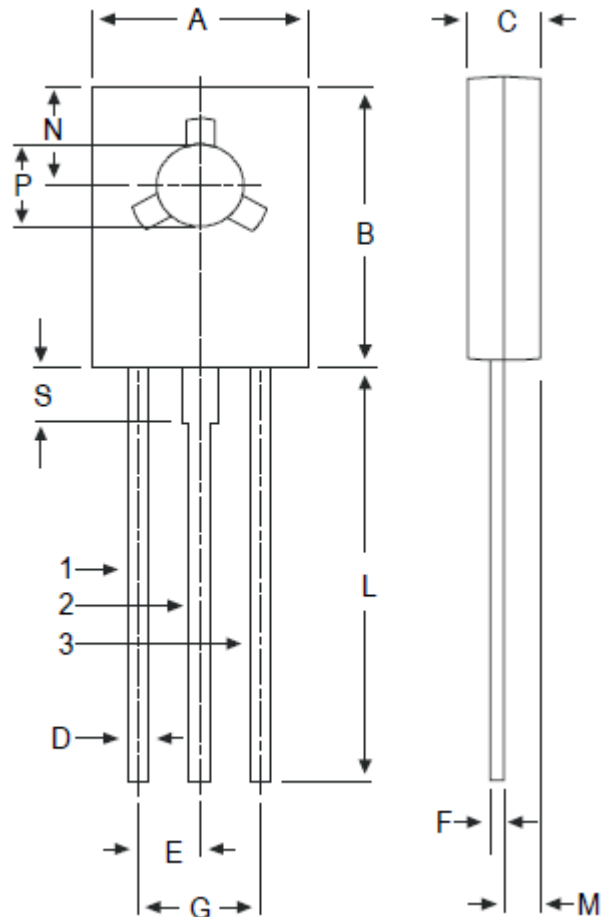
(\*) These parameters must be measured using pulse techniques,  $t_p$  300  $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

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## MECHANICAL DATA CASE TO-126

	DIMENSIONS	
	min	max
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 typ.	
F	0.49	0.75
G	4.4 typ.	
L	15.7 typ.	
M	1.27 typ.	
N	3.75 typ.	
P	3.0	3.2
S	2.54 typ.	

Pin 1 :	Emitter
Pin 2 :	Collector
Pin 3 :	Base



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