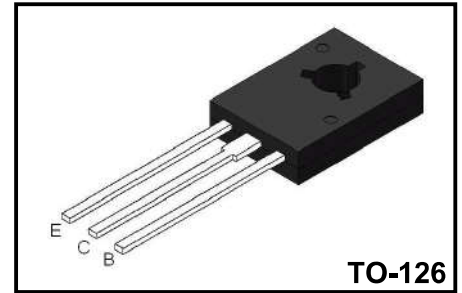


NPN Plastic-Encapsulate Transistors
Applications

- ◆ Audio power amplifier
- ◆ DC-DC convertor
- ◆ Voltage regulator

Features

- ◆ High current output up to 4A
- ◆ Low saturation voltage
- ◆ Complement to BD441



Marking Code	
BD441	YFW BD441

Absolute Maximum Rating ($T_C=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	80	V
Collector-emitter voltage	BV_{CEO}	80	V
Emitter-base voltage	BV_{EBO}	5	V
Collector current (DC)	I_C	4	A
Collector current (Pulse)	I_{CP}	7	A
Base current	I_B	1	A
Power dissipation	P_C	$T_A=25^\circ\text{C}$	1
		$T_C=25^\circ\text{C}$	25
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	80			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 1\text{mA}, I_B = 0$	80			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector cut-off current	I_{CEO}	$V_{CB} = 80\text{V}, I_B = 0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			100	μA
DC current gain*	h_{FE1}	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	20			
	h_{FE2}	$V_{CE} = 1\text{V}, I_C = 500\text{mA}$	40	140	475	
	h_{FE3}	$V_{CE} = 1\text{V}, I_C = 2\text{A}$	15			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 0.2\text{A}$		0.3	0.8	V
Base-emitter saturation voltage*	$V_{BE(on)}$	$V_{CE} = 1\text{V}, I_C = 2\text{A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 1\text{V}, I_B = 250\text{mA}$	3			MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		45		pF

* Pulse test: $PW \leq 300\mu\text{s}$, duty cycle $\leq 2\%$ Pulse

Typical Characteristics

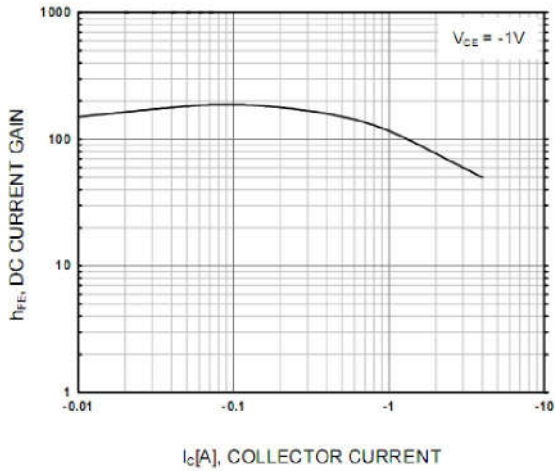


Figure 1. DC current Gain

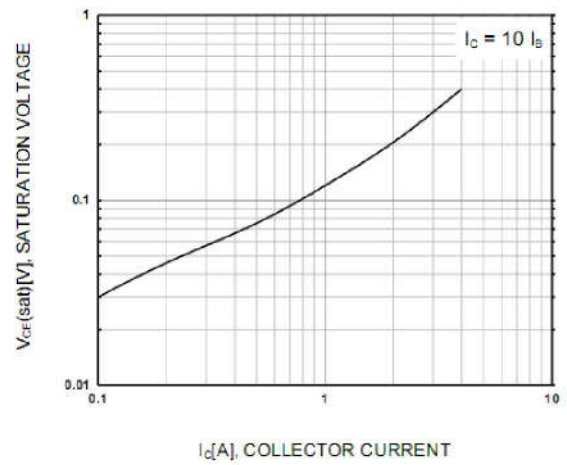


Figure 2. Collector-Emitter Saturation Voltage

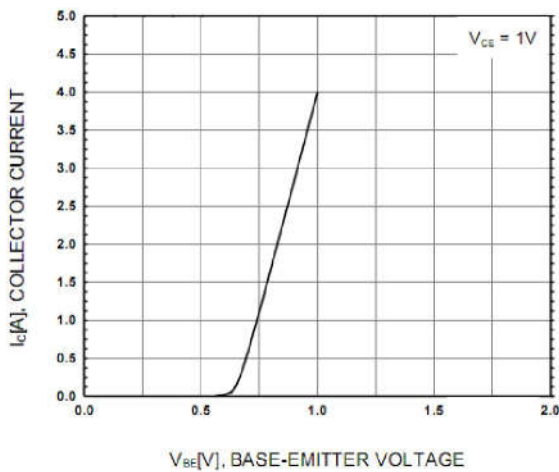


Figure 3. Base-Emitter On Voltage

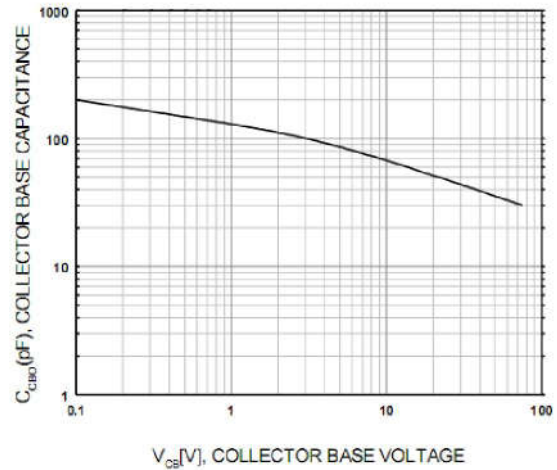


Figure 4. Collector-Base Capacitance

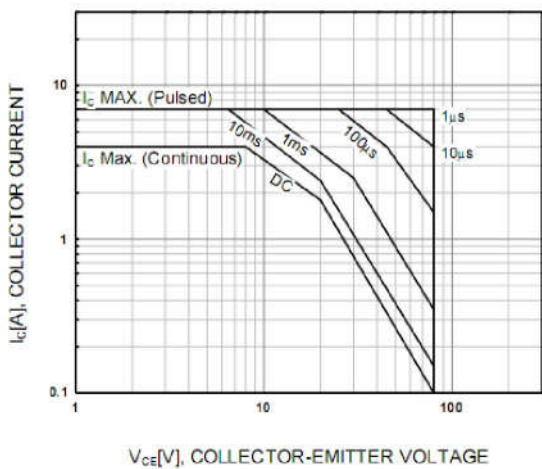


Figure 5. Safe Operating Area

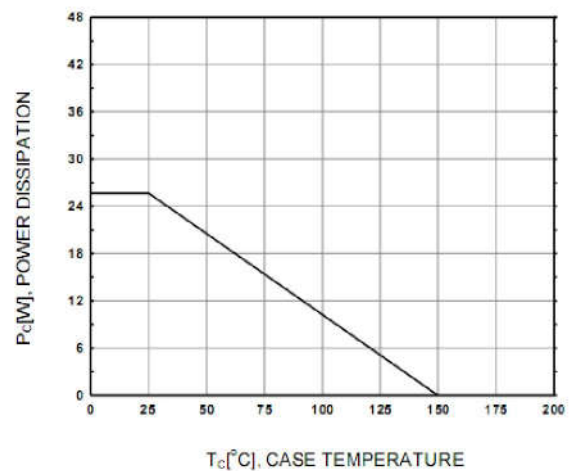


Figure 6. Power Derating

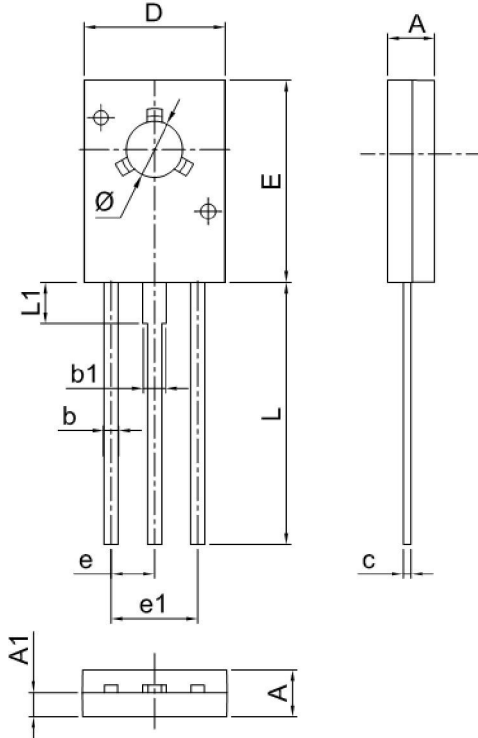
Ordering information

Package	Packing Description	Base Quantity
TO-126	Bulk	500pcs/Bag

Package Dimensions

TO-126

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
A1	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.17	1.37	0.046	0.054
c	0.40	0.60	0.016	0.024
D	7.30	7.70	0.287	0.303
E	10.60	11.00	0.417	0.433
e	2.25	2.33	0.089	0.092
e1	4.50	4.66	0.177	0.183
L	14.00	15.00	0.551	0.591
L1	1.90	2.50	0.075	0.098
Φ	3.10	3.30	0.122	0.130



Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.