

/ Descriptions

TO-126F

NPN

Silicon NPN transistor in a TO-126F Plastic Package.

/ Features

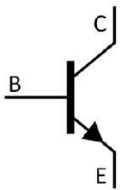
BD442

Complementary pair with BD442.

/ Applications

Medium power linear and switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Emitter

PIN 2 Collector

PIN 3 Base

/ h_{FE} Classifications & Marking

See Marking Instructions

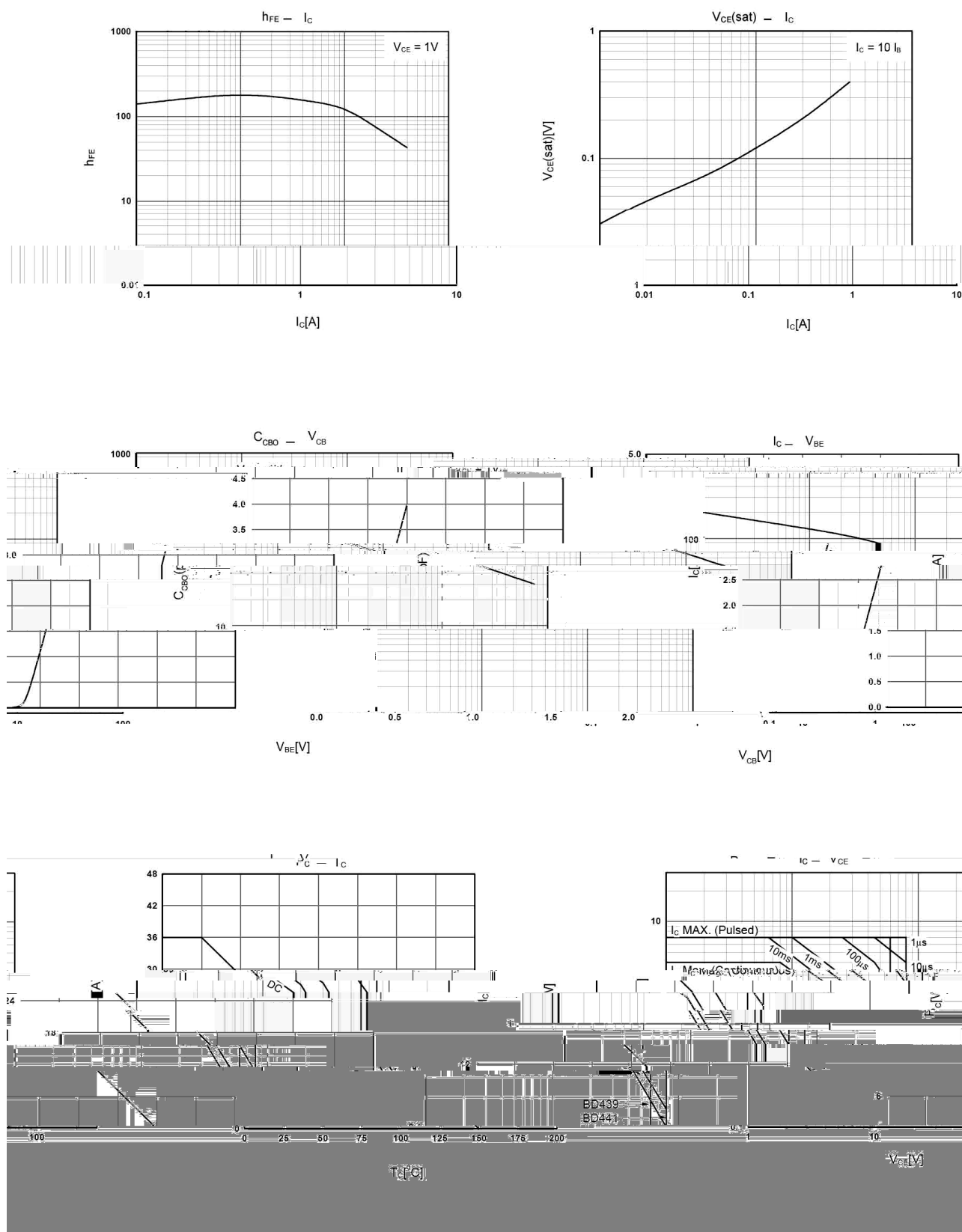
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	80	V
Collector to Emitter Voltage	V_{CES}	80	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	4.0	A
Peak Collector Current	I_{CP}	7.0	A
Base Current - Continuous	I_B	1.0	A
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	36	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

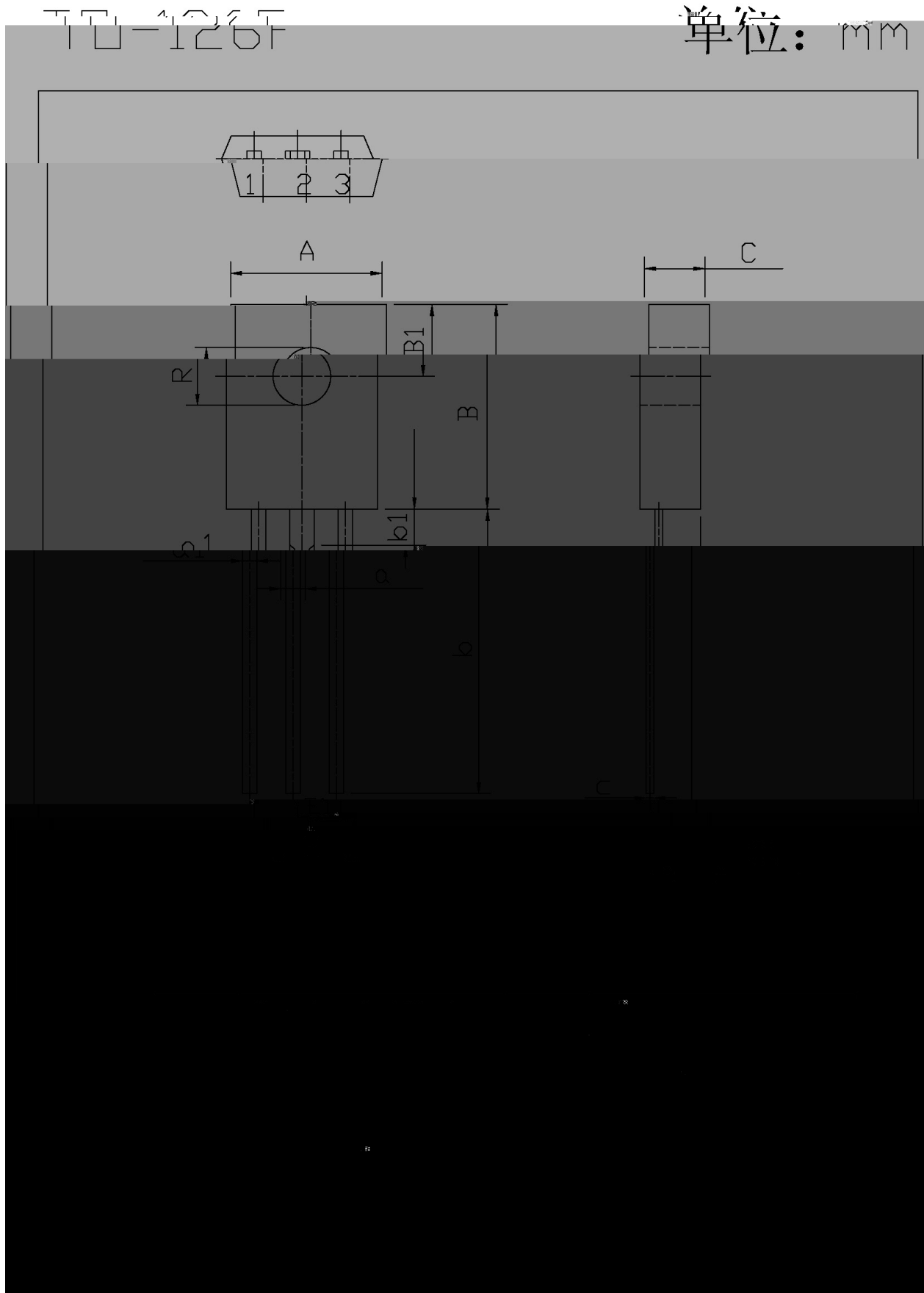
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=100\text{mA}$ $I_B=0$	80			V
Collector to Emitter Breakdown Voltage	V_{CES}	$I_C=1.0\text{mA}$ $R_{BE}=0$	80			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=80\text{V}$ $I_E=0$			100	A
Collector Cut-Off Current	I_{CES}	$V_{CE}=80\text{V}$ $V_{BE}=0$			100	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0\text{V}$ $I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0\text{V}$ $I_C=500\text{mA}$	40	140	475	
	$h_{FE(2)}$	$V_{CE}=5.0\text{V}$ $I_C=10\text{mA}$	15	130		
	$h_{FE(3)}$	$V_{CE}=1.0\text{V}$ $I_C=2.0\text{A}$	15			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0\text{A}$ $I_B=0.2\text{A}$			0.8	V
Base to Emitter On Voltage	$V_{BE(on)(1)}$	$V_{CE}=5.0\text{V}$ $I_C=10\text{mA}$		0.58		V
	$V_{BE(on)(2)}$	$V_{CE}=1.0\text{V}$ $I_C=2.0\text{A}$			1.5	V
Transition Frequency	f_T	$V_{CE}=1.0\text{V}$ $I_C=250\text{mA}$	3.0			MHz

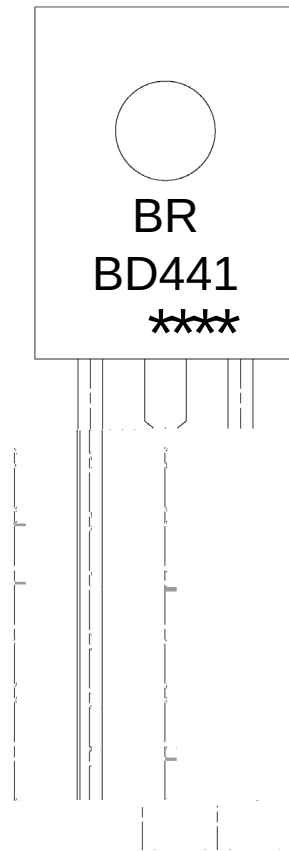
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

BD441

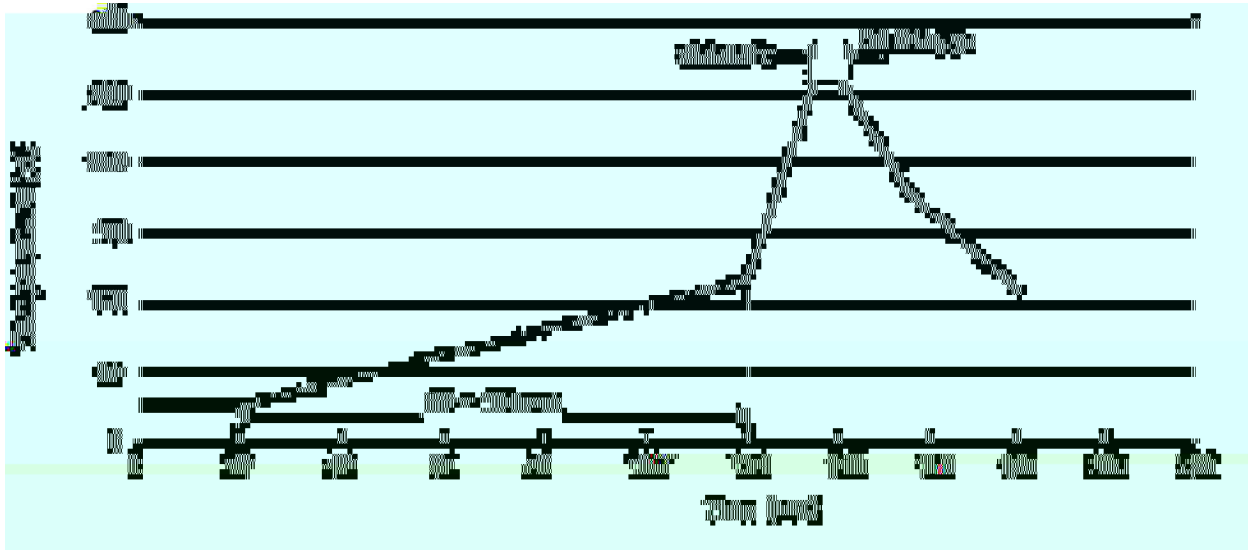
Note:

BR: Company Code

BD441: Product Type.

****: Lot No. Code, code change with Lot No.

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-126/F	500	6	3,000	5	15,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-126/F	65	26	1,690	5	8,450	532×31×5.6	555×164×50	575×290×180

/ Notices