

/ Descriptions

TO-126F

NPN

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

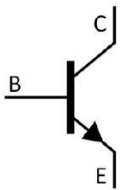
/ Features

BD438

Complementary pair with BD438.

/ 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.

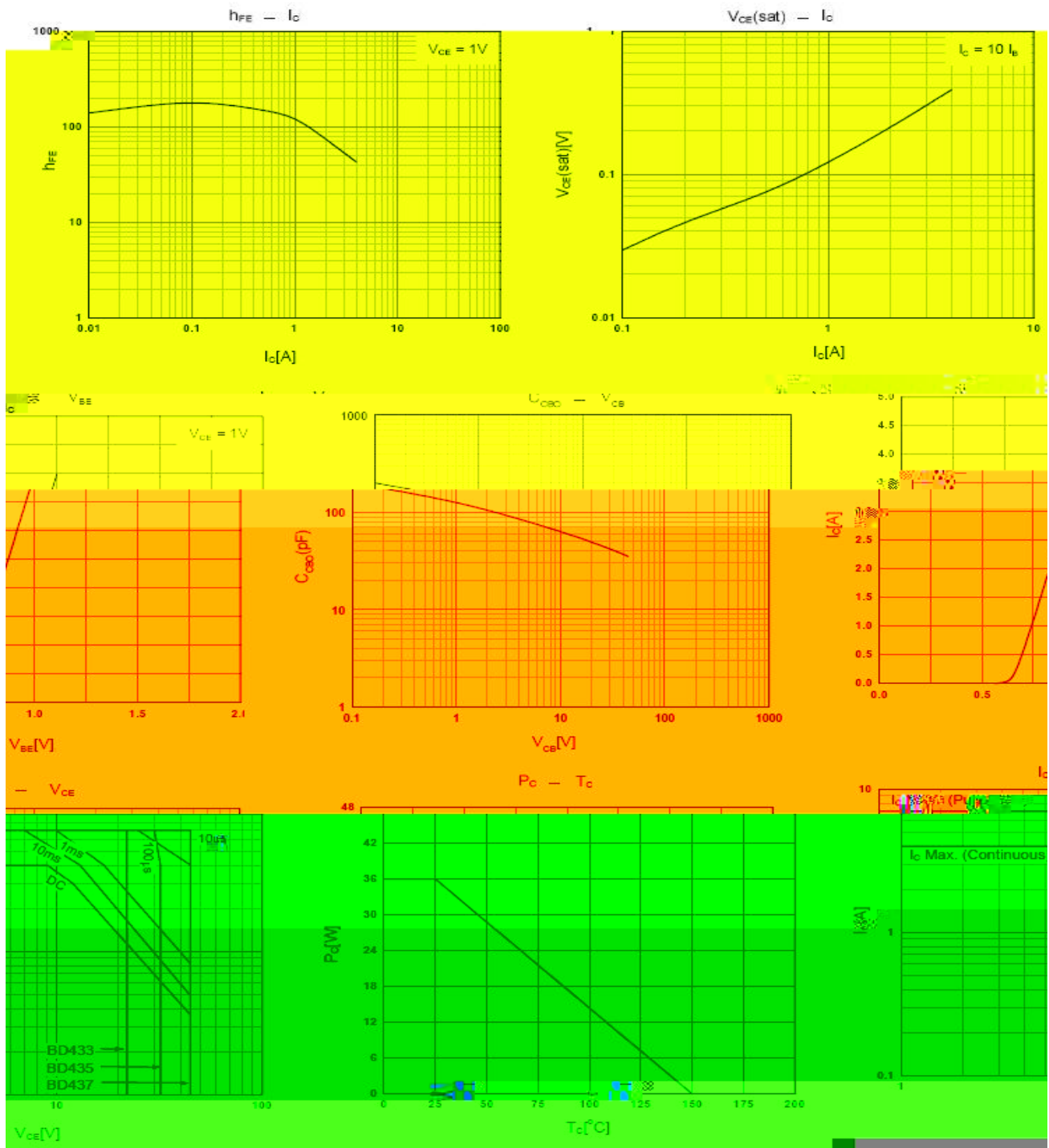
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	45	V
Collector to Emitter Voltage	V_{CEO}	45	V
Collector to Emitter Voltage	V_{CES}	45	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	4.0	A
Collector Current – Continuous(Pulse)	I_{CP}	7.0	A
Base Current - Continuous	I_B	1.0	A
Collector Power Dissipation	P_C	1.25	W
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	

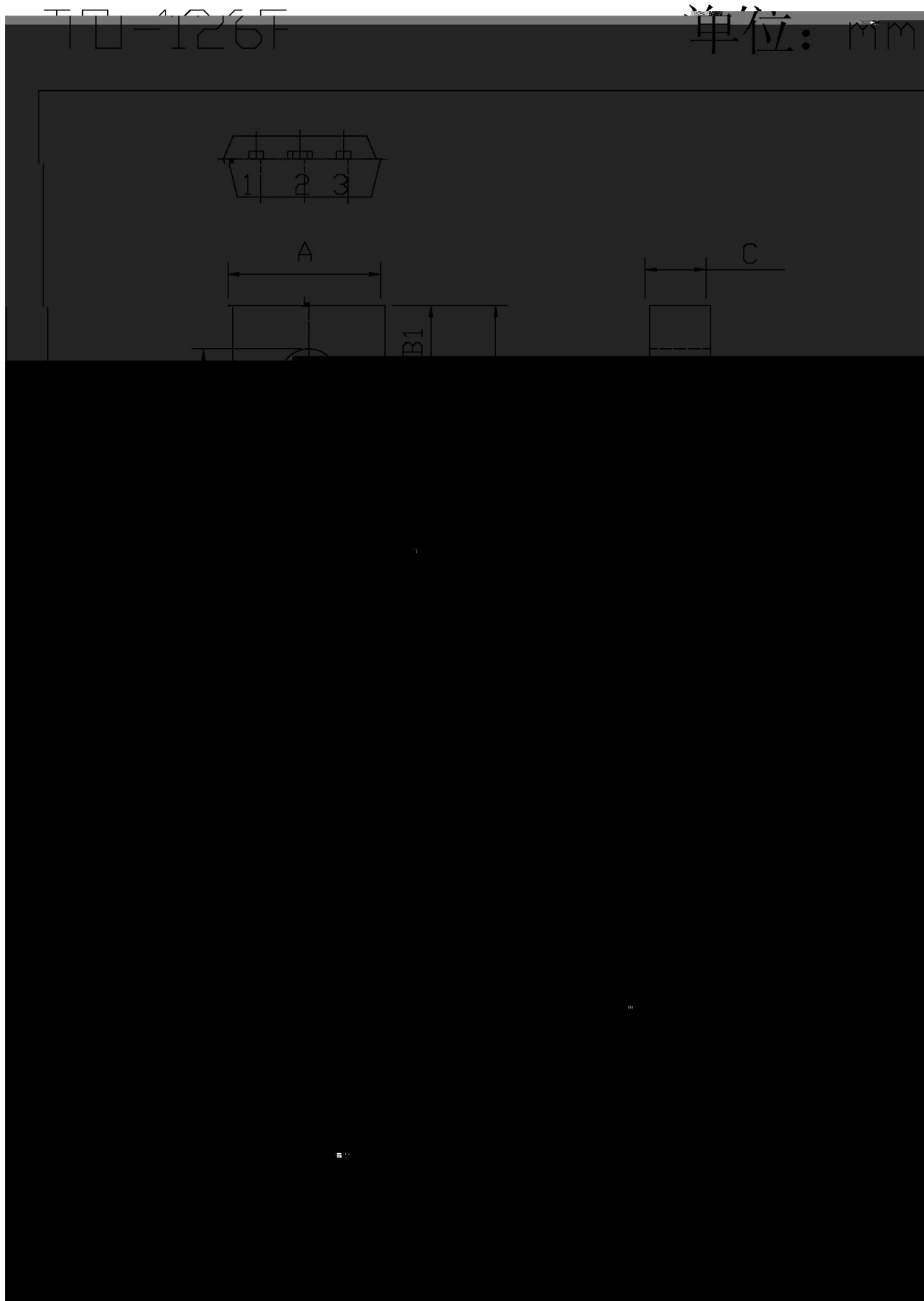
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=100\text{mA}$ $I_B=0$	45			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=45\text{V}$ $I_E=0$			100	μA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=45\text{V}$ $I_B=0$			100	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5\text{V}$ $I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1\text{V}$ $I_C=500\text{mA}$	85		375	
	$h_{FE(2)}$	$V_{CE}=1\text{V}$ $I_C=2\text{A}$	40			
	$h_{FE(3)}$	$V_{CE}=5\text{V}$ $I_C=10\text{mA}$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{A}$ $I_B=0.2\text{A}$		0.2	0.6	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=1\text{V}$ $I_C=2\text{A}$			1.2	V
Transition Frequency	f_T	$V_{CE}=1\text{V}$ $I_C=250\text{mA}$	3			MHz

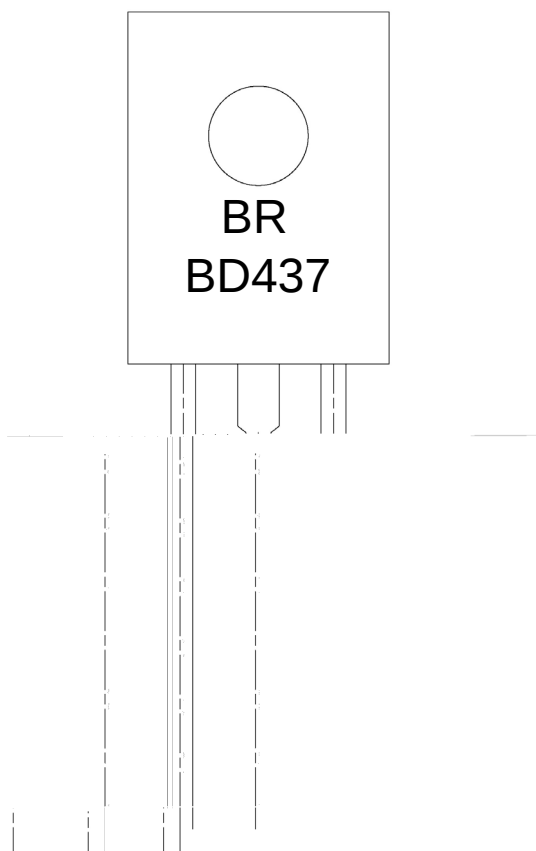
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

BD437

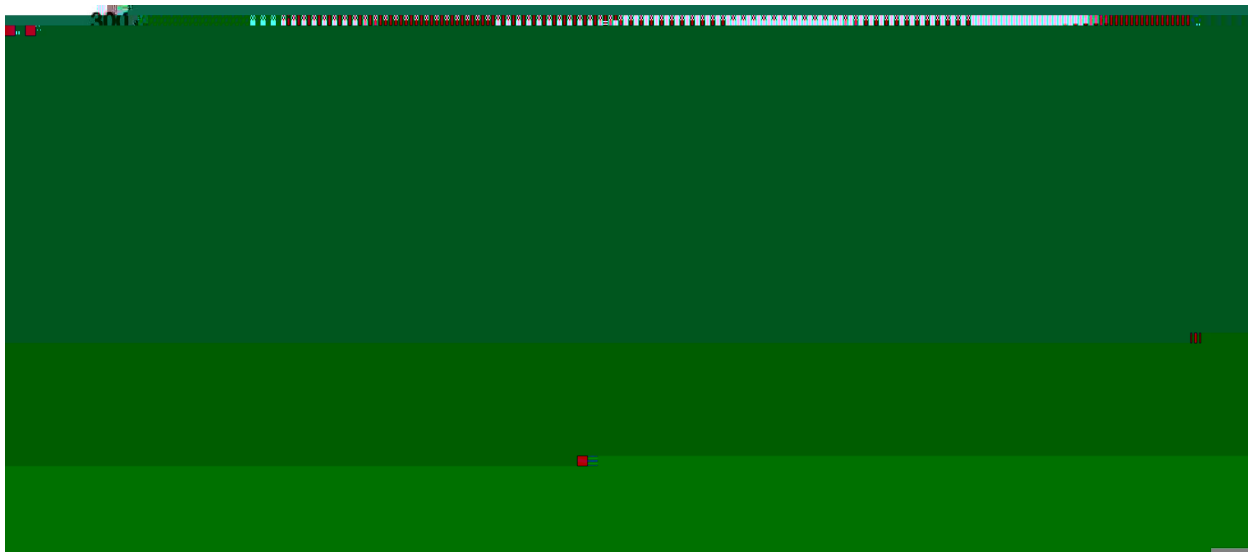
Note:

BR: Company Code

BD437: 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	Units					Dimension		(unit mm ³)

/ TUBE

Package Type	Units					Dimension		(unit mm ³)

/ Notices