

BD442

Rev.E Mar.-2016

/ Descriptions

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

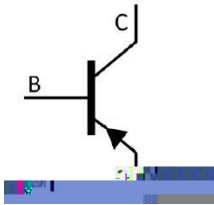
/ Features

BD441
Complementary pair with BD441.

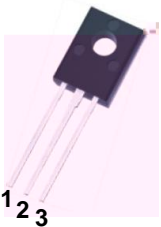
/ Applications

Medium power linear and switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Emitter PIN 2 Collector PIN 3 Base

/ h_{FE} Classifications & Marking

See Marking Instructions.

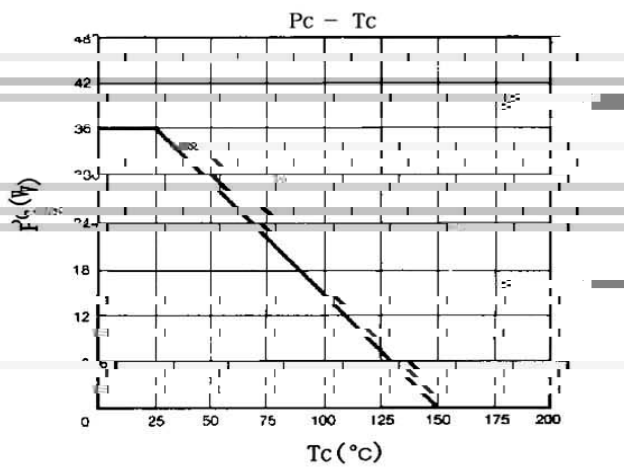
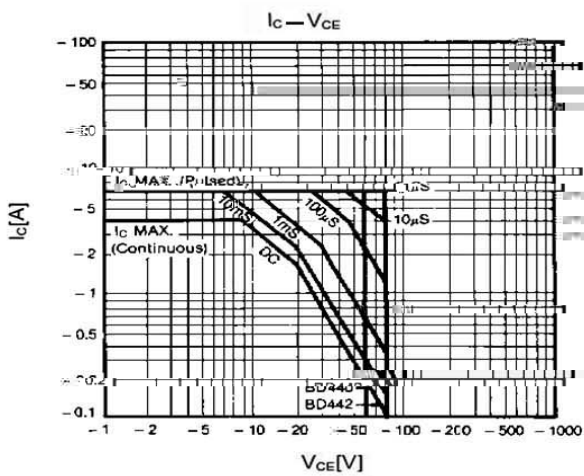
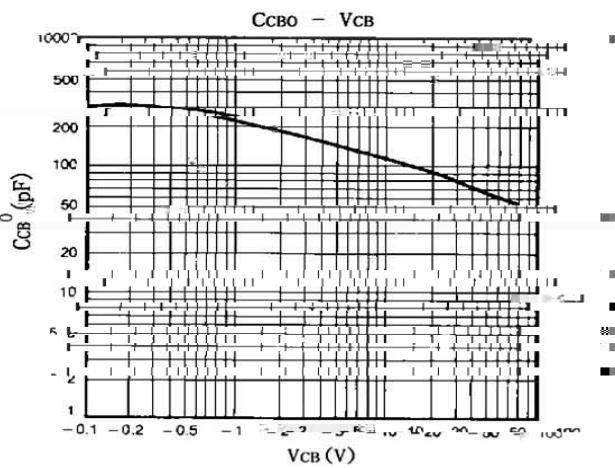
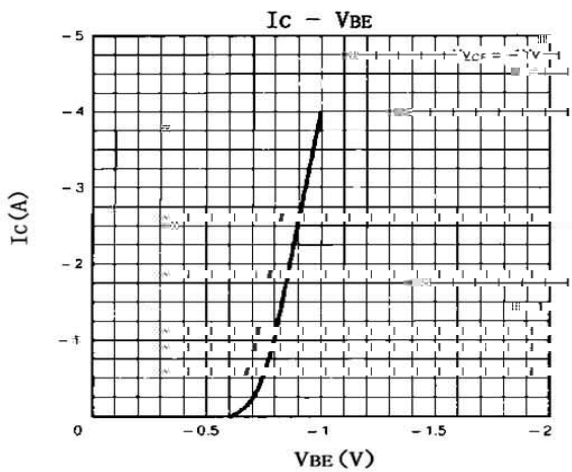
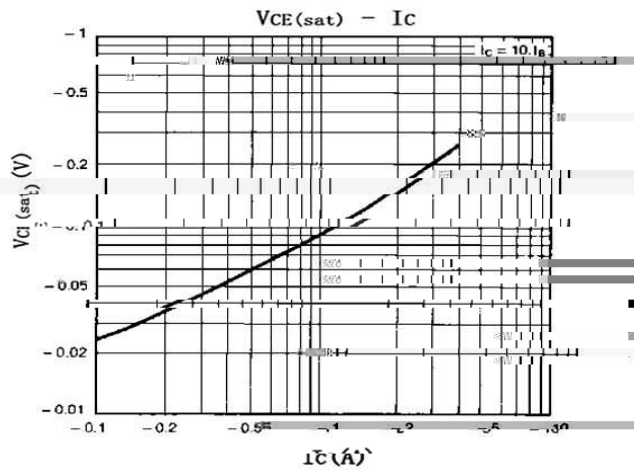
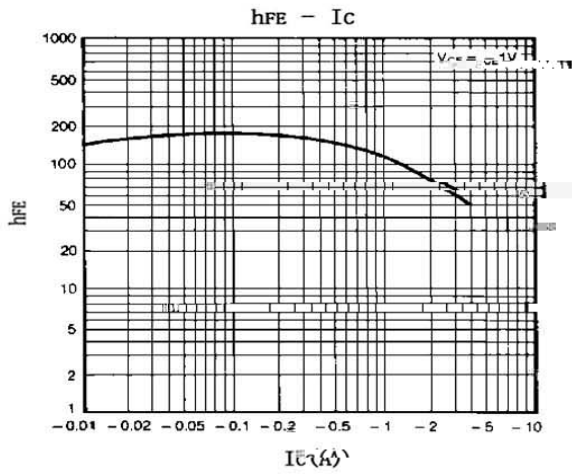
/ Absolute Maximum Ratings(Ta=25)

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
Collector Current – Continuous(Pulse)	I_{CP}	-7.0	A
Base Current - Continuous	I_B	-1.0	A
Collector Power Dissipation	$P_C(T_C=25)$	36	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

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

/ Electrical Characteristic Curve



/ Marking Instructions



BR

BD442

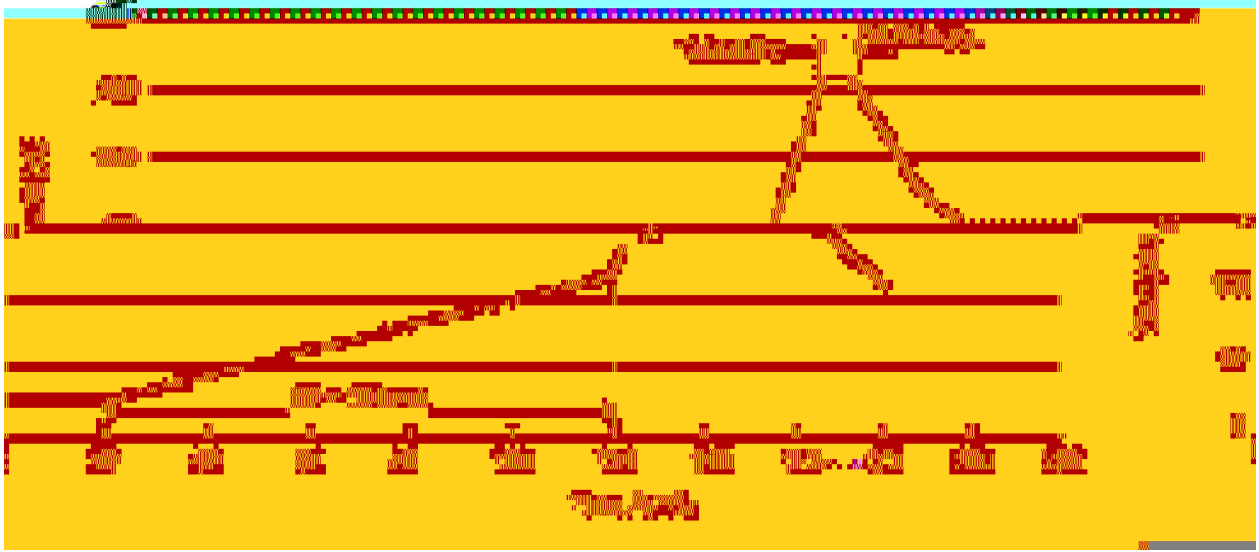
Note:

BR: Company Code

BD442: Product Type.

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

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



- | | | | | | | |
|---|-------|-----|-----------|--------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | Note: | 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)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱

/ TUBE

Package Type 封装形式	Units 包装数量	Dimension 包装尺寸 (unit: mm ³)