

/ Descriptions

TO-252 PNP Silicon PNP transistor in a TO-252 Plastic Package.

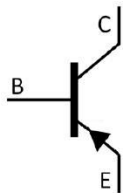
/ Features

 , 2SD1760
Low $V_{CE(sat)}$, complements the 2SD1760.

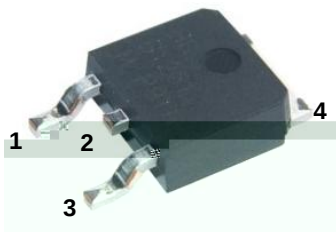
/ Applications

Power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2,4 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	P	Q	R
h_{FE} Range	82 180	120 270	180 390

/ Absolute Maximum Ratings(Ta=25)

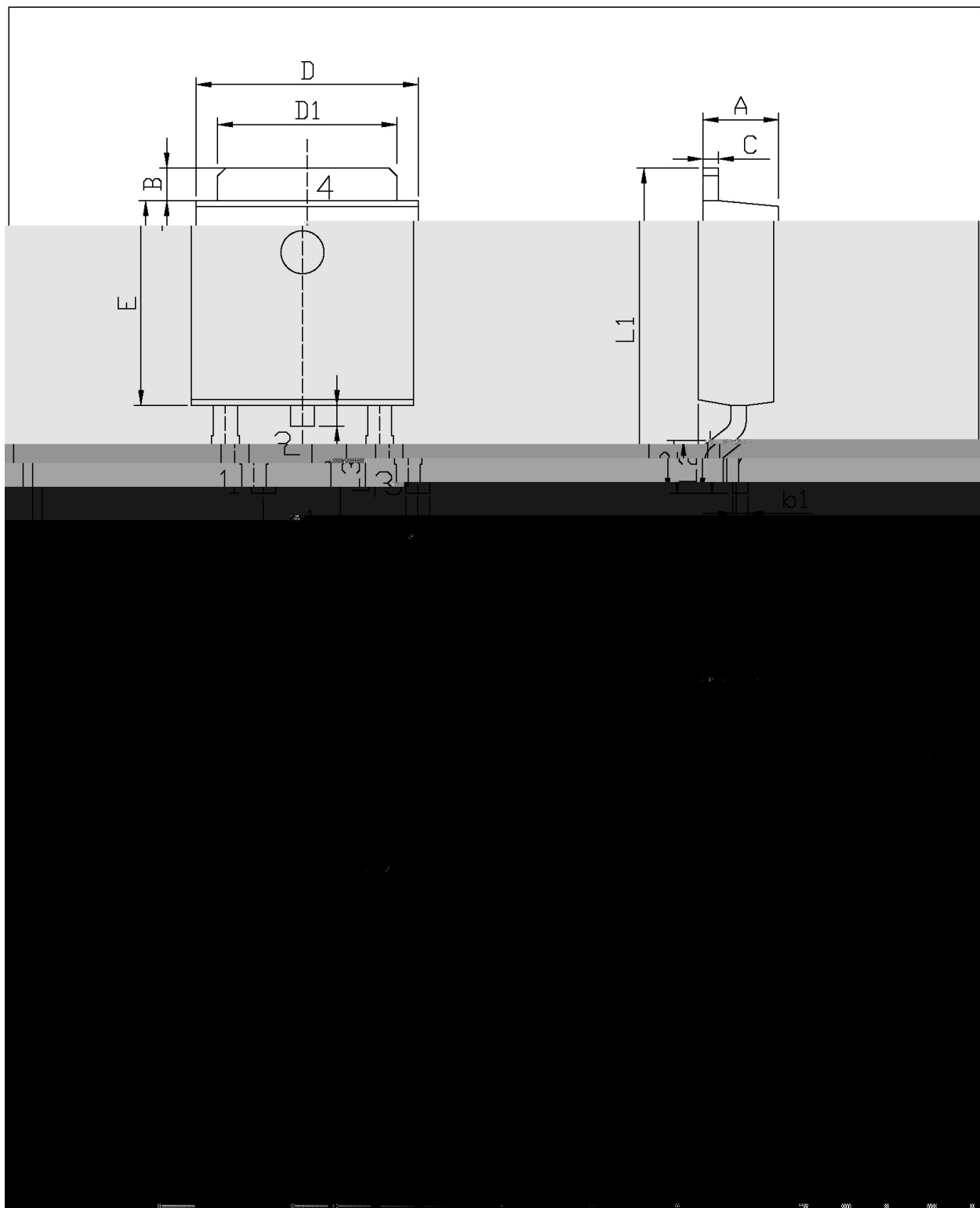
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-3.0	A
Collector Power Dissipation	P_C	1.0	W
Collector Power Dissipation	$P_C(T_c=25)$	15	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 150	°C

/ Electrical Characteristics(Ta=25)

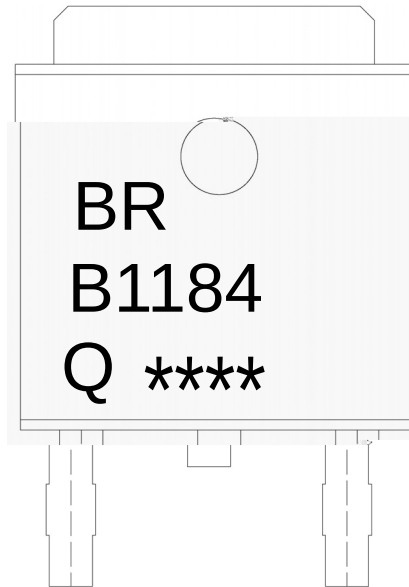
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=-50\mu A$ $I_E=0$	-60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-1.0mA$ $I_B=0$	-50			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-50\mu A$ $I_C=0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-40V$ $I_E=0$			-1.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-4.0V$ $I_C=0$			-1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=-3.0V$ $I_C=-0.5A$	82		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-2.0A$ $I_B=-0.2A$			-1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.5A$ $I_B=-0.15A$			-1.2	V
Transition Frequency	f_T	$V_{CE}=-5.0V$ $I_C=-0.5A$ $f=30MHz$		70		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		50		pF

f

/ Package Dimensions



/ Marking Instructions



BR

B1184

Q: h_{FE}

Note:

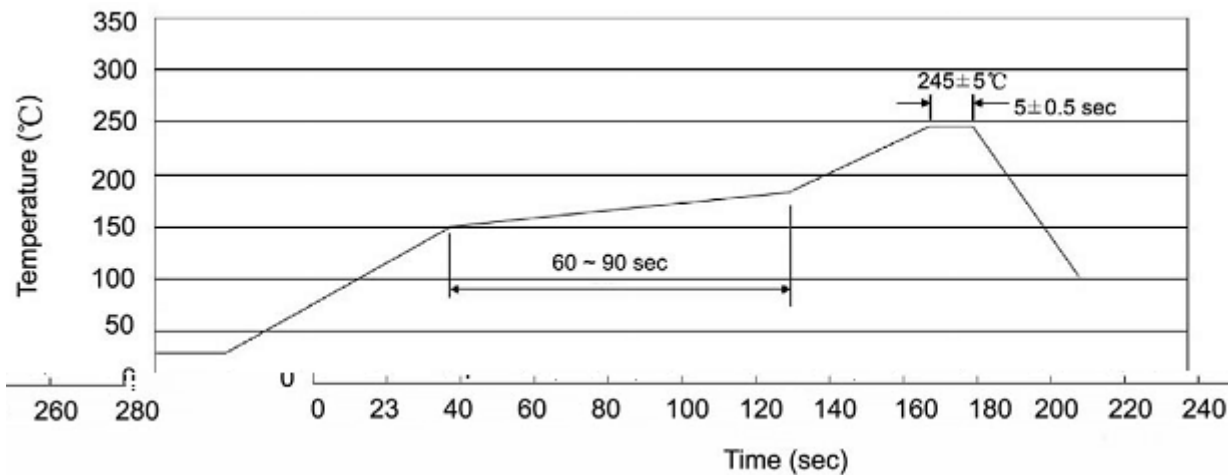
BR: Company Code

B1184: Product Type.

Q: h_{FE} Classifications Symbol

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5°C Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000	5	25,000	13 ×16	360×360×50	385×257×392

/ 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-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices