2SB1184

Rev.E May.-2016

DATA SHEET

/ Descriptions

WR0585 Ṃ Ṃ Ŀ SQS Æ Ṁ ɥ s ǁ ˀ Silicon PNP transistor in a TO-252 Plastic Package.

/ Features

ت ᵓ я ں ṇ /љ 5VG4 : 93 Ӣ ʹ

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

/ Applications

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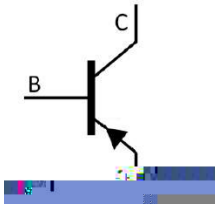
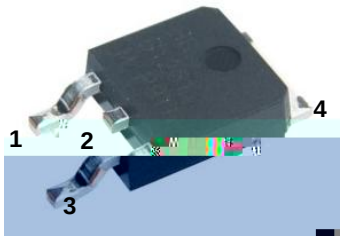
Power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 χ Base PIN 2,4 χ Collector PIN 3 χ 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)

v ̈Ω Parameter	ϒ N Symbol	̈Ω Ö Rating	D Ч 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(Tc=25)	15	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

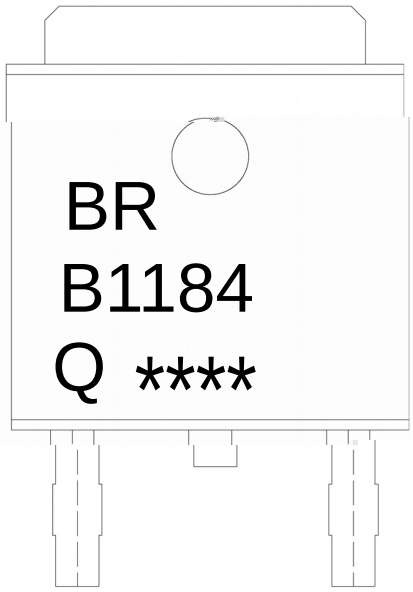
/ Electrical Characteristics(Ta=25)

v ̈Ω Parameter	ϒ N Symbol	╨ ː┆ ϯ Test Conditions	ѡ ɳ Ö Min	Ɛ ȝ Ö Typ	ѡ ᶻ Ö Max	D Ч Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=-50μA 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=-50μA 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

/ Package Dimensions

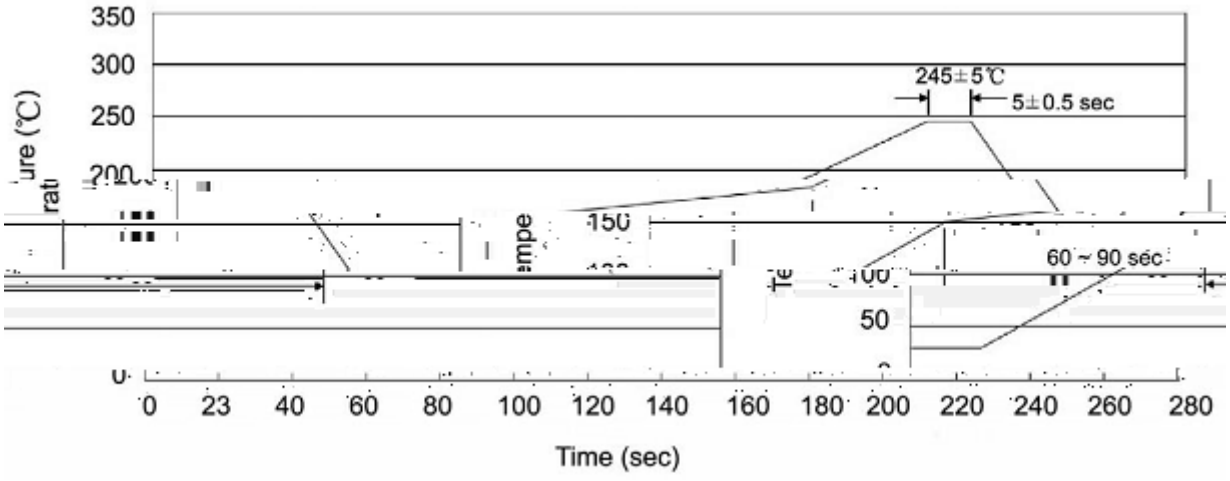


/ Marking Instructions



ب ˝ χ	
BR χ	⌘ ⅋ ᴵ ⊓
E44 ; 7 χ	⌘ ⅋ ᴺ ⊓
T=	⌘ h_{FE} ˋ ⁶ ⊓
---- χ	⌘ ⊣ ⊢ ή ᴺ ⊓ ı ⊕ ⊣ ⊢ ή ᴺ ψ ק
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)



ب ˝ χ

1 ⺊ ♬ □ ỷ 25 Ḱ 150 ɫ ı `H ڑ 60 Ḱ 90sec;

2 Š Ö □ ỷ 245 ° 5 ɫ ı `H ڑ ˙Y ⺈ ⺮ 5 ° 0.5sec;

3 ì ˙ ⺈ ˛ ɔ ⺌ ỷ ⺮ 2 Ḱ 10 ɫ /sec.

Note:

1.Preheating:25~150 ɫ , Time:60~90sec.

2.Peak Temp.:245 ° 5 ɫ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɫ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 260 ° 5 ɫ `H ڑ χ 10 ° 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

ɔ` γ ⊢ / REEL

Package Type	Units					Dimension (unit mm^3)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	5	25,000	13 ×16	360×360×50	385×257×392

˘ ˥ γ ⊢ / TUBE

Package Type	Units					Dimension (unit mm^3)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices