2SD1609

Rev.F Mar.-2016

DATA SHEET

/ Descriptions

WR0459 Ṃ Ṃ Ł QSQ Æ Ṁ ч s ǁ ˥ Silicon NPN transistor in a TO-126 Plastic Package.

/ Features

љ 5VE443< Й ´

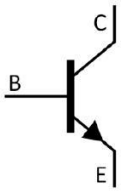
Complementary pair with 2SB1109.

/ Applications

Ӊ ļ ҳ я ѿ ҂

Low frequency high voltage amplifier.

/ Equivalent Circuit



/ Pinning



PIN1 χ Emitter PIN 2 χ Collector PIN 3 χ Base

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	B	C	D
h_{FE} Range	60 120	100 200	160 320

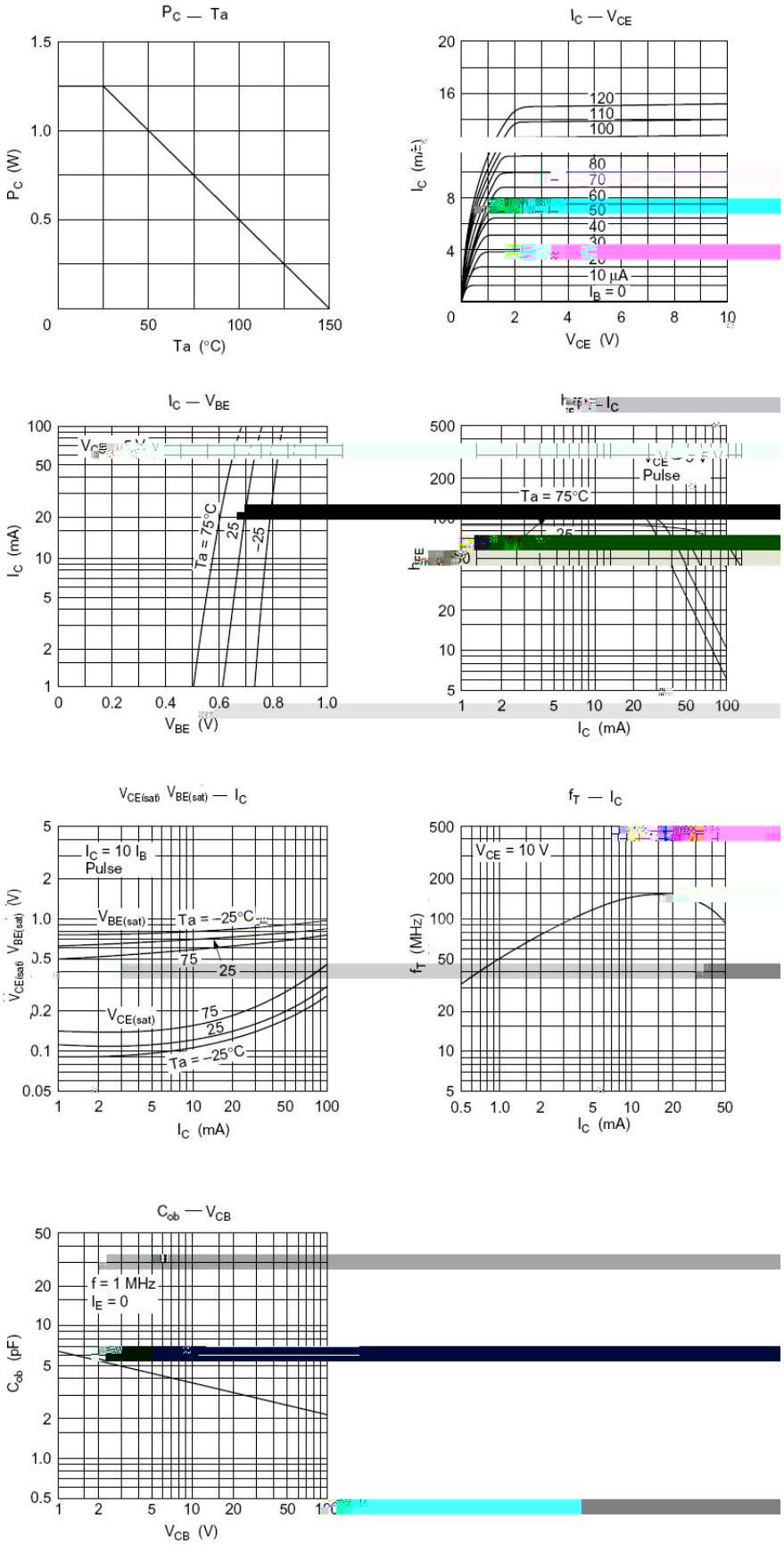
/ Absolute Maximum Ratings(Ta=25)

v ̈Ω̣ Parameter	ɬ N Symbol	̈Ω̣Ö Rating	D Ɉ Unit
Collector to Base Voltage	V_{CBO}	160	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	1.25	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

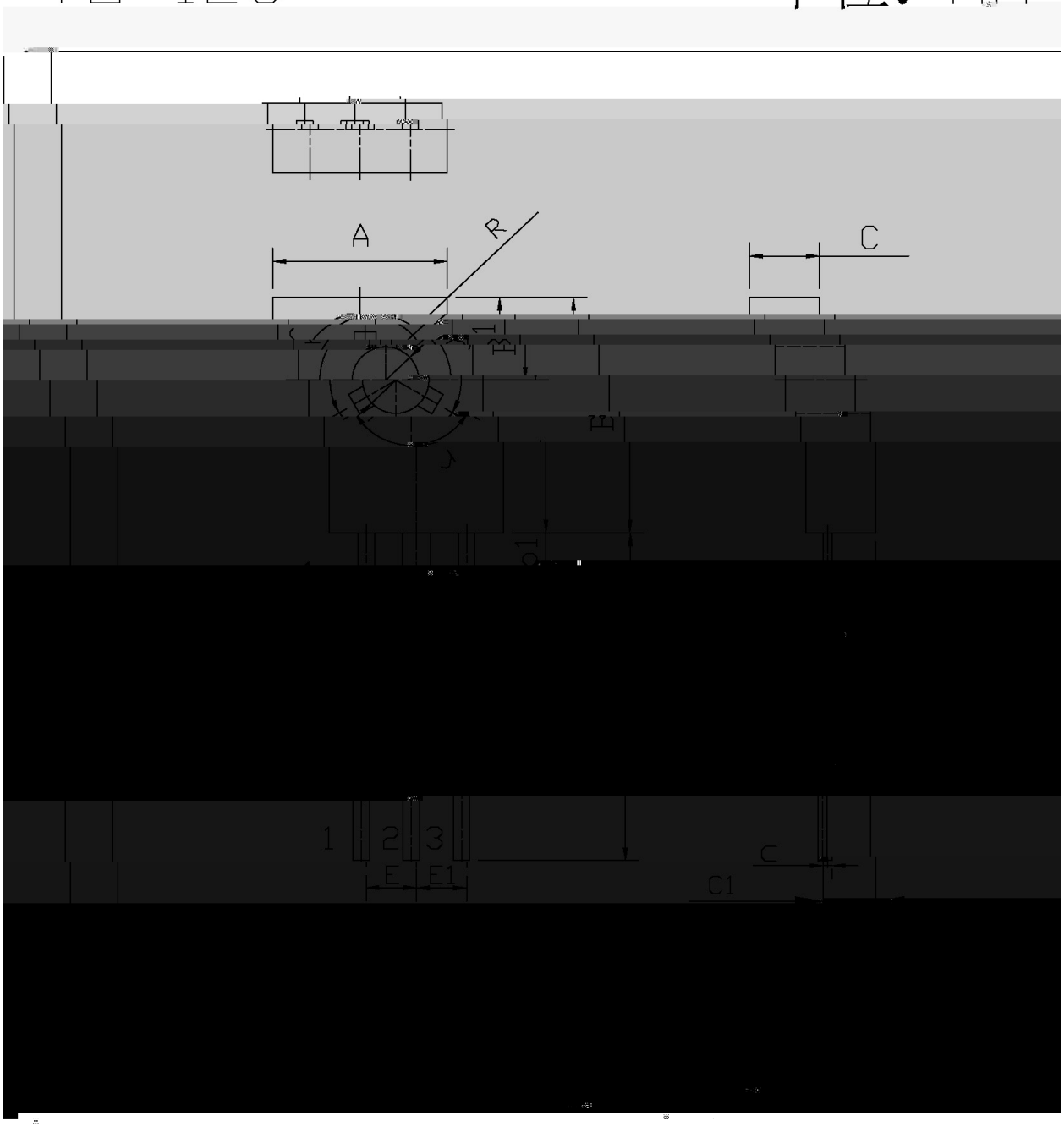
v ̈Ω̣ Parameter	ɬ N Symbol	⊥⊥ ;ɬ Ţ Test Conditions	ω̣ ṇ Ö Min	Ɛ ʒ Ö Typ	ω̣ ʑ Ö Max	D Ɉ Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=10μA I_E=0	160			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1mA I_B=∞	160			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10μA I_C=0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=140V I_E=0			10	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5V I_C=10mA	60		320	
	$h_{FE(2)}$	V_{CE}=5V I_C=1mA	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=30mA I_B=3mA			2	V
Base to Emitter Voltage	V_{BE}	V_{CE}=5V I_C=10mA			1.5	V
Transition Frequency	f_T	V_{CE}=5V I_C=10mA		140		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1MHz		3.8		pF

/ Electrical Characteristic Curve

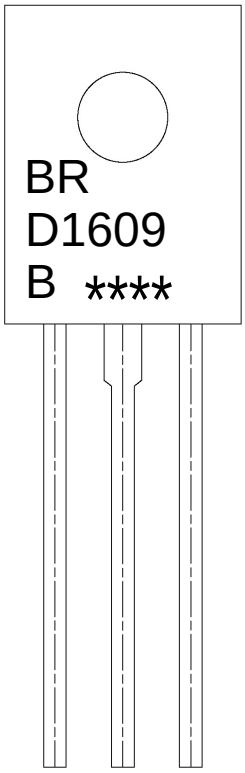


/ Package Dimensions

TO-126 单位：mm



/ Marking Instructions



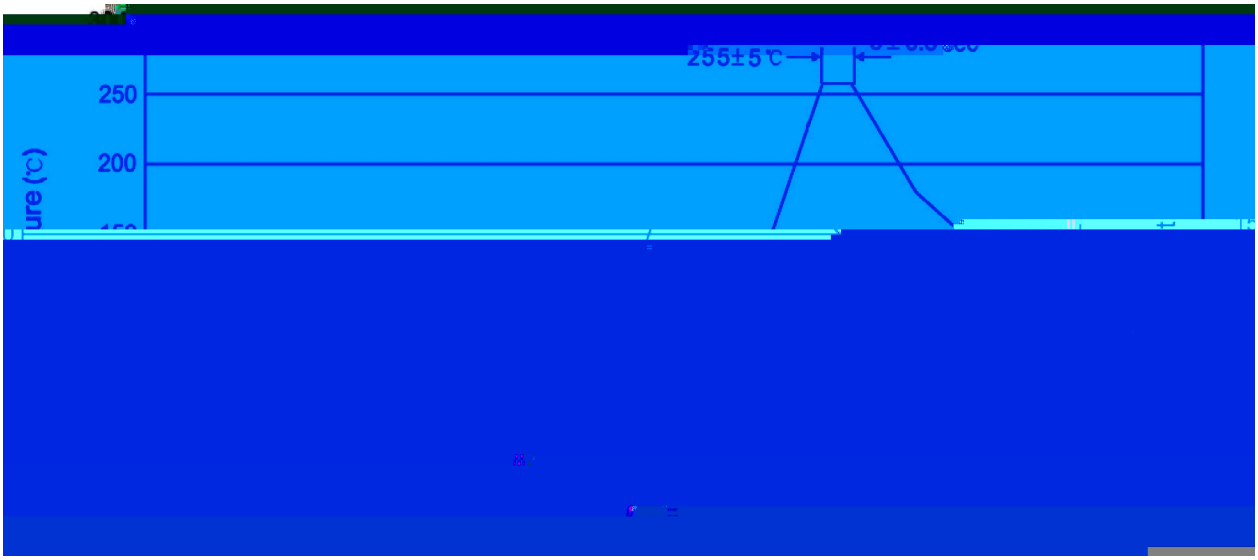
ب ˝ χ

EU χ	ѭ ʒ ᴵ Ɱ
G493< χ	ѭ ʒ ᴺ Ɱ
E=	ѭ kᴵᴴ ʿ ᶠ Ɱ
---- χ	ѭ ɨ ɾ ŋ̋ ᴺ Ɱ ɪ ɞ ɨ ɾ ŋ̋ ᴺ ψ ק

Note:

BR:	Company Code
D1609:	Product Type.
B:	h_{FE} Classifications Symbol
****:	Lot No. Code, code change with Lot No.

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



ب ˝ χ

1 ǂ ♬ □ ỷ 25 Ḱ 150 ɬ ı ̀H ڑ 60 Ḱ 90sec;

2 Š Ö □ ỷ 255 ° 5 ɬ ı ̀H ڑ ̀Y ⺈ ⺮ 5 ° 0.5sec;

3 ì ̇ ⺈ ˛ ɔ ھ ỷ ⺮ 2 Ḱ 10 ɬ /sec.

Note:

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

2.Peak Temp.:255 ° 5 ɬ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɬ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 270 ° 5 ɬ ̀H ڑ χ 10 ° 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

̈Ω̣ ţ ɣ ŁŁ / BULK

Package Type	Units