/ Descriptions

WR0459I ṂṂ Ł QSQ ÆṀ ч s ll ㄱ Silicon NPN transistor in a TO-126F Plastic Package.

/ Features

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high speed switching.

/ Applications

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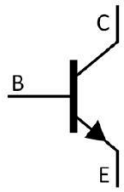
Power audio amplifier, high speed switching applications.

/ Equivalent Circuit



/ Pinning

PIN1 χ Emitter PIN 2 χ Collector PIN 3 χ Base

/ h_{FE} Classifications & Marking

ỏ м ヽ ب ˝ See Marking Instructions.

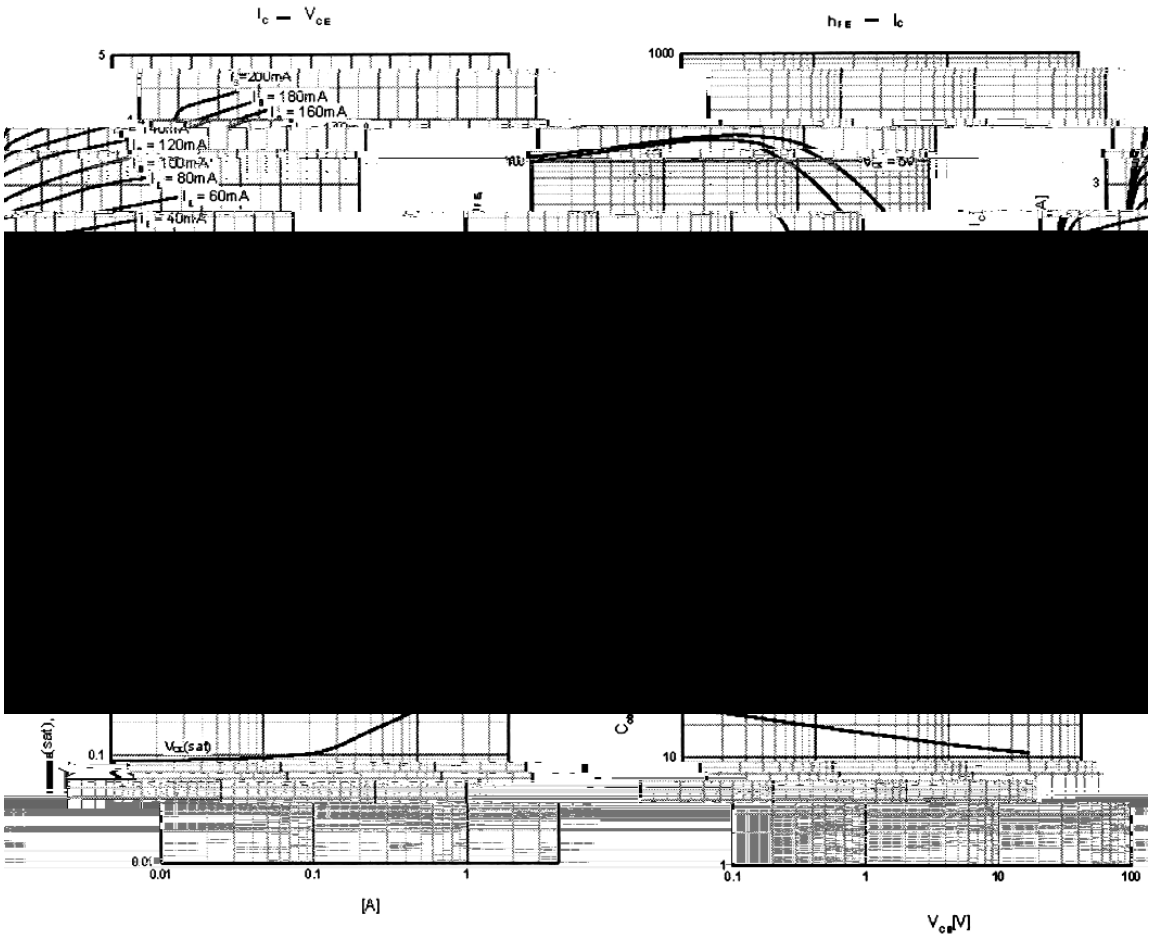
/ Absolute Maximum Ratings(Ta=25)

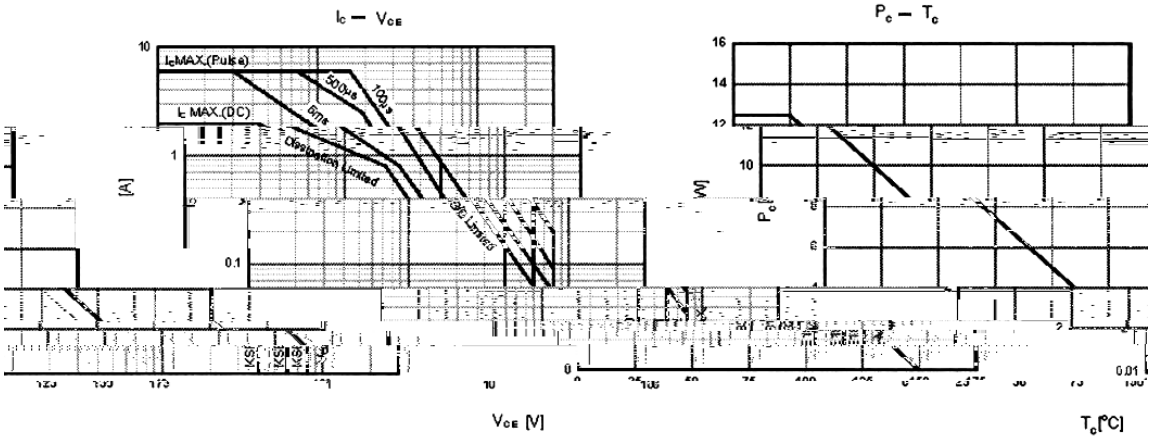
v ̈Ω Parameter	ϒ N Symbol	̈Ω Ö Rating	D Ч Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current – Continuous	I_C	3.0	A
Collector Current – Continuous(Pulse)	I_{CP}	6.0	A
Base Current – Continuous	I_B	1.0	A
Collector Power Dissipation	P_C	1.5	W
Collector Power Dissipation	P_C(Tc=25)	12.5	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

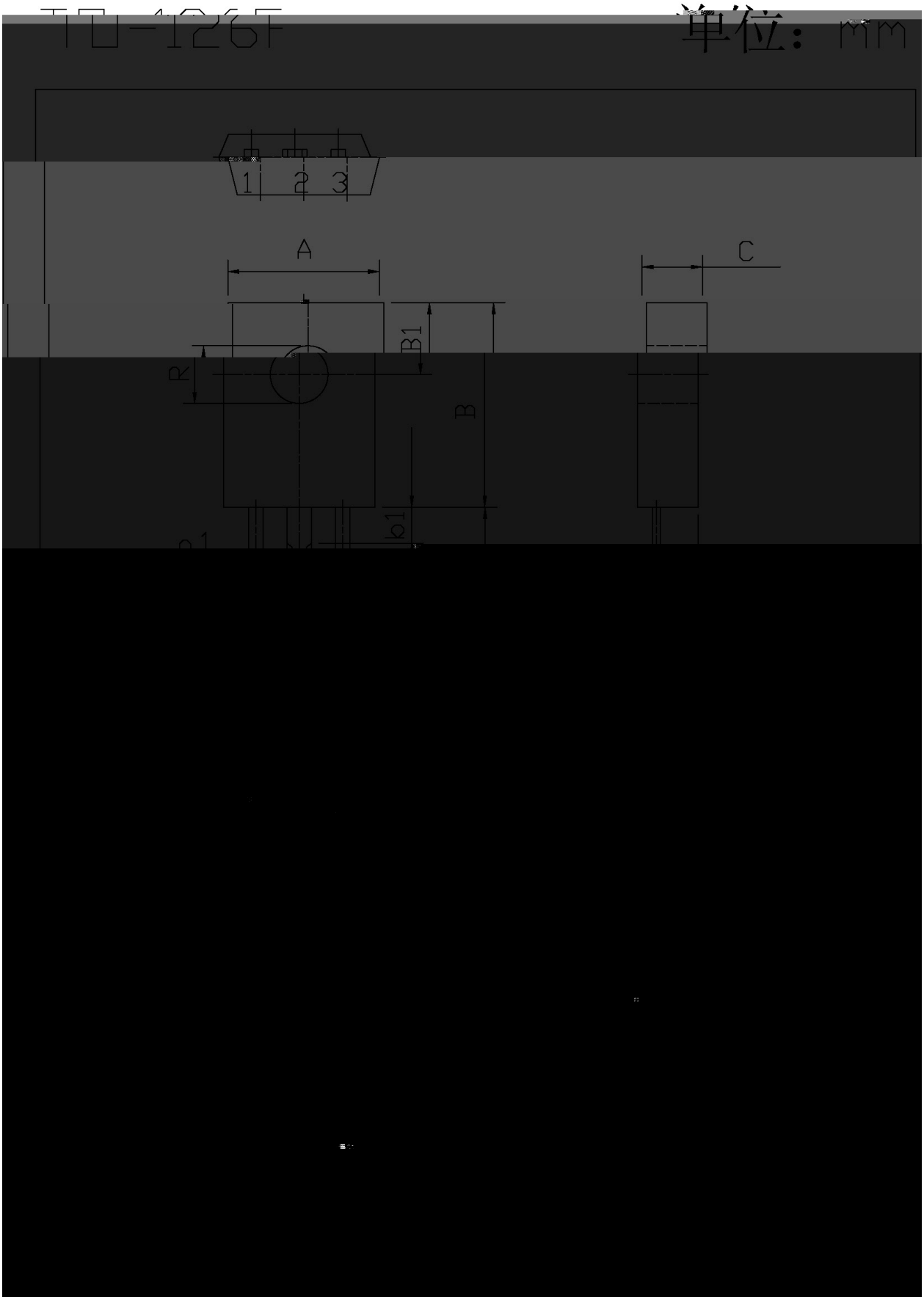
v ̈Ω Parameter	ϒ N Symbol	╨ :╎ Ţ Test Conditions	ѡ ṇ Ö Min	Ɛ ʒ Ö Typ	ѡ ᶻ Ö Max	D Ч Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=10mA I_B=0	40			V
Collector Cut-Off Current	$I_{CBO(1)}$	V_{CB}=60V I_B=0			0.1	μA
	$I_{CBO(2)}$	V_{CB}=60V I_E=0 T_C=150			0.1	mA
Emitter Cut-off Current	I_{EBO}	V_{BE}=7.0V I_C=0			0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=1.0V I_C=100mA	50		250	
	$h_{FE(2)}$	V_{CE}=1.0V I_C=1.5A	12			
	$h_{FE(3)}$	V_{CE}=1.0V I_C=500mA	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	I_C=500mA I_B=50mA			0.3	V
	$V_{CE(sat)(2)}$	I_C=1.5A I_B=150mA			0.9	V
	$V_{CE(sat)(3)}$	I_C=3.0A I_B=600mA			1.7	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	I_C=1.5A I_B=150mA			1.5	V
	$V_{BE(sat)(2)}$	I_C=3.0A I_B=600mA			2.0	V
Base to Emitter On Voltage	$V_{BE(on)}$	V_{CE}=1.0V I_C=500mA			1.2	V
Transition Frequency	f_T	V_{CE}=10V I_C=100mA	50			MHz
Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=0.1MHz			30	pF

/ Electrical Characteristic Curve





/ Package Dimensions



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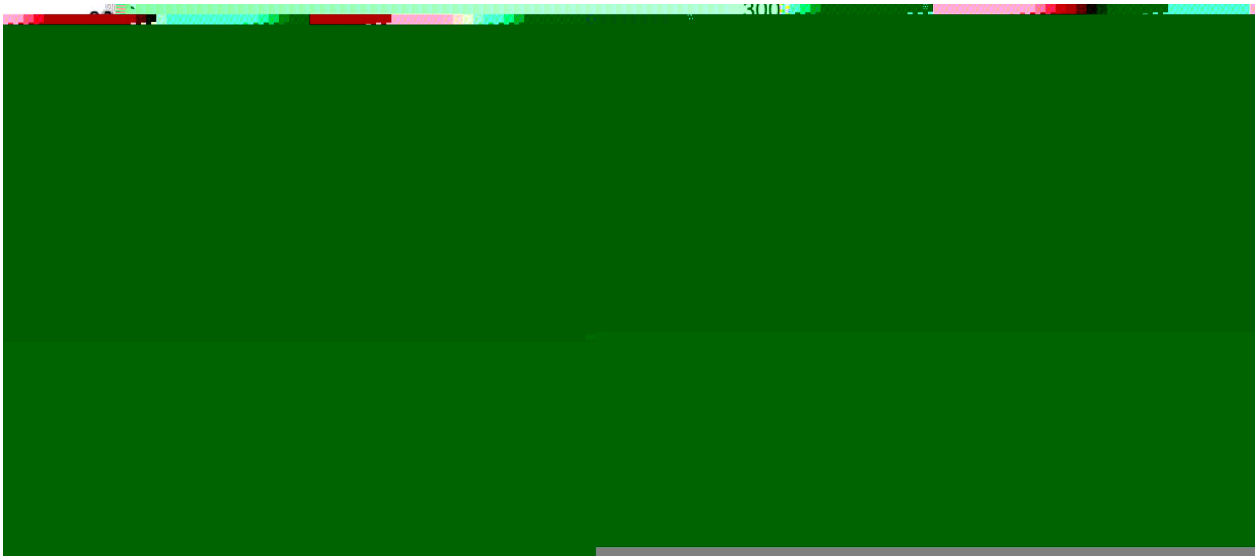
( ) / Temperature Profile for Dip Soldering(Pb-Free)



ب ˝ χ

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

2 Š Ө □ ỷ 255 ° 5 ɬ ı ̀H ڑ ̀Y ﾊ ㎞ 5 ° 0.5sec;

3 ì ˙ ﾘ ˛ ɔ ෯ ỷ ㎞ 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.

̈Ω ţ ﾔ Ь / BULK

Package Type	Units					Dimension		(unit mm^3)

˛ ﾘ ﾔ Ь / TUBE

Package Type	Units					Dimension		(unit mm^3)

/ Notices