

/ Descriptions

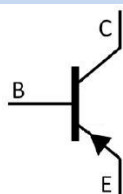
WR-456I SQS Silicon PNP transistor in a TO-126F Plastic Package.

/ Features

5VG66<+D,
Complementary pair with 2SD669(A).

/ Applications

H₁
Low frequency power amplifier.

/ Equivalent Circuit**/ Pinning**

PIN1 Emitter PIN 2 Collector PIN 3 Base

/ h_{FE} Classifications & Marking

h _{FE} Classifications Symbol	B	C	D
h _{FE} Range	60~120	100~200	160~320

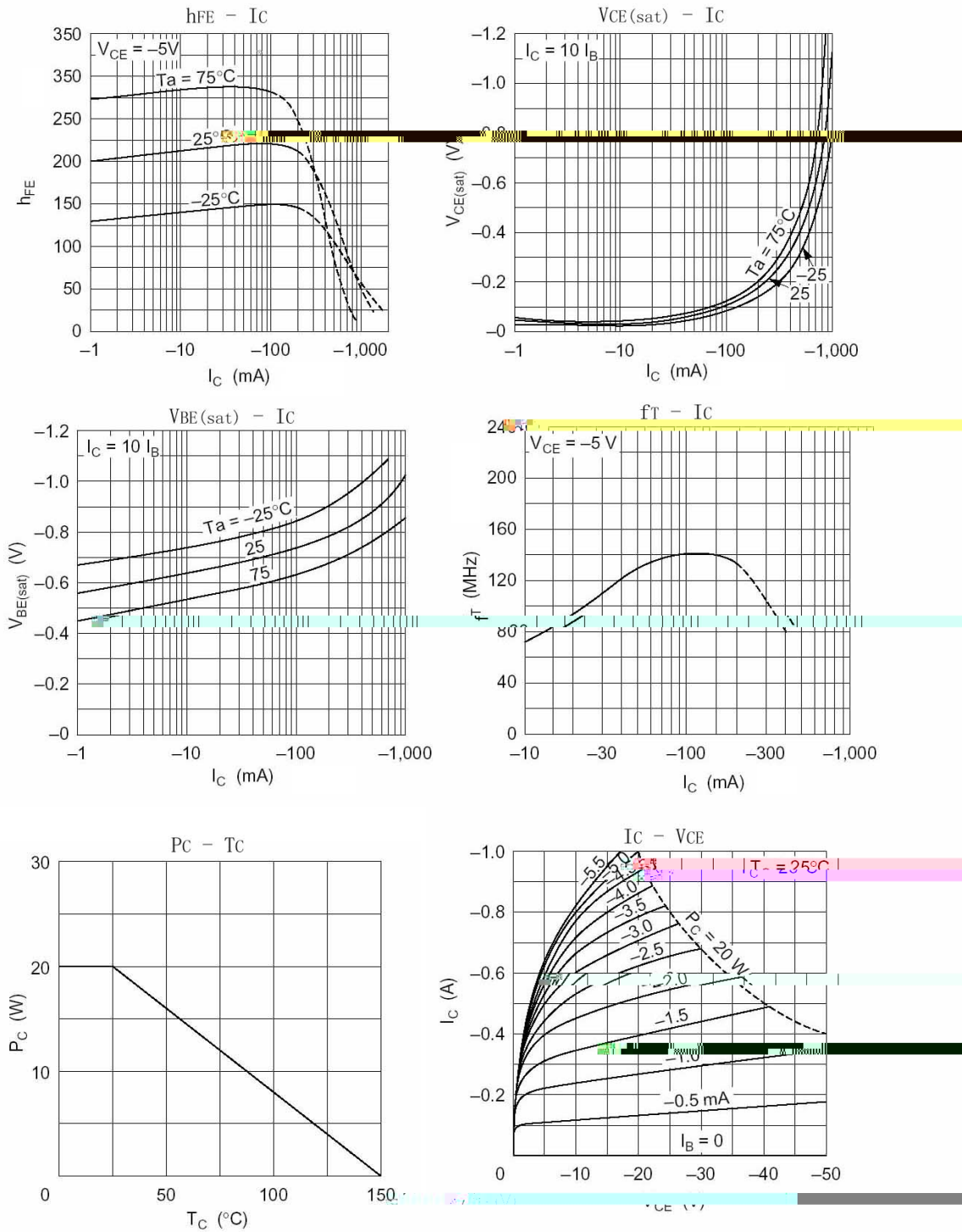
/ Absolute Maximum Ratings(Ta=25)

Parameter	N Symbol		Rating	H Unit
Collector to Base Voltage	V_{CBO}		-180	V
Collector to Emitter Voltage	V_{CEO}	2SB649	-120	V
		2SB649A	-160	
Emitter to Base Voltage	V_{EBO}		-5.0	V
Collector Current - Continuous	I_C		-1.5	A
Collector Current(Pulse)	I_{CP}		-3.0	A
Collector Power Dissipation	P_C		1.0	W
Collector Power Dissipation	$P_C(T_c=25^{\circ}C)$		20	W
Junction Temperature	T_j		150	$^{\circ}C$
Storage Temperature Range	T_{stg}		-55~150	$^{\circ}C$

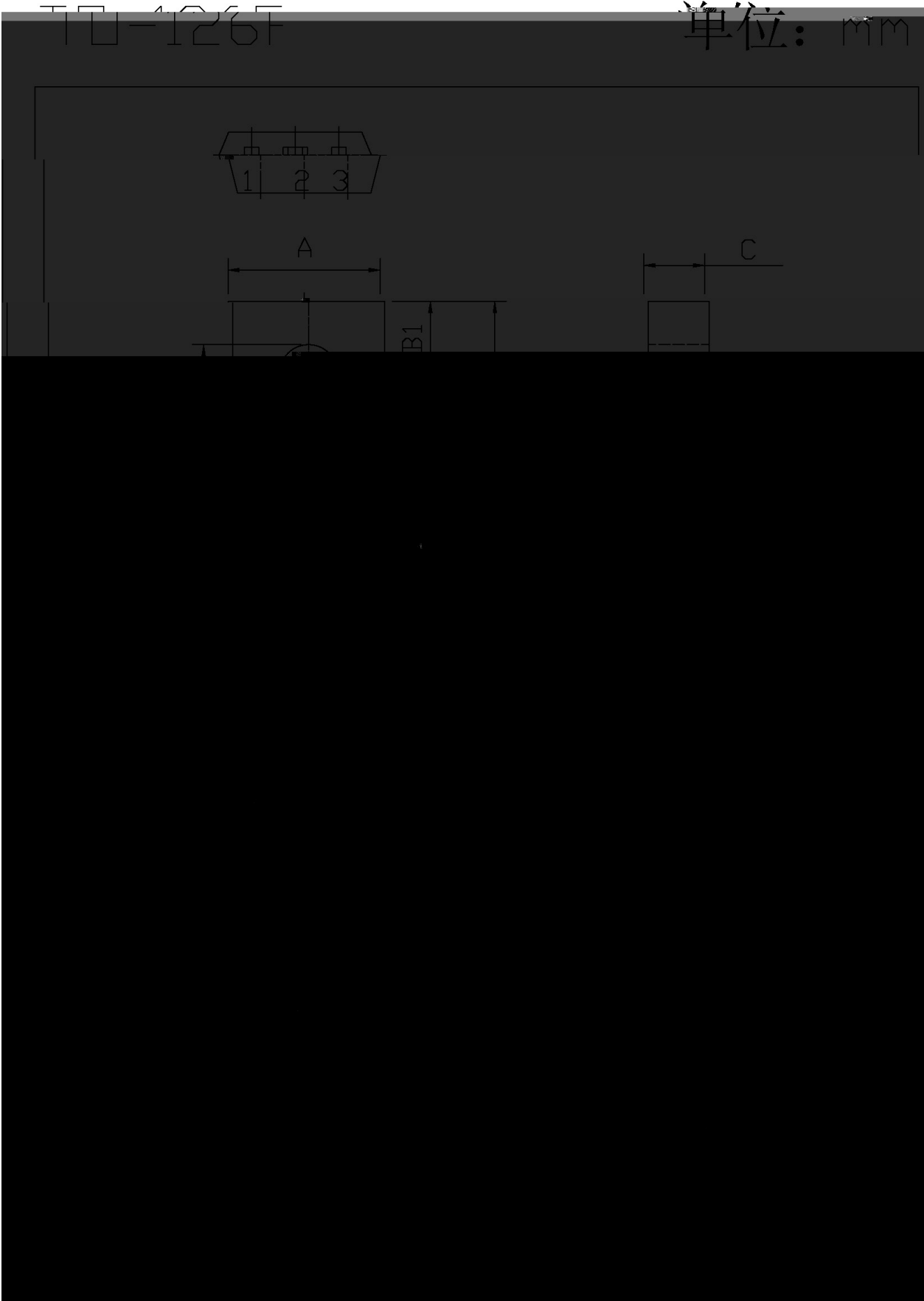
/ Electrical Characteristics(Ta=25)

Parameter	N Symbol		Test Conditions	Min	Typ	Max	H Unit
Collector to Base Breakdown Voltage	V_{CBO}		$I_C=-1.0mA$ $I_E=0$	-180			V
Collector to Emitter Breakdown Voltage	V_{CEO}	2SB649	$I_C=-10mA$ $R_{BE}=\quad$	-120			V
		2SB649A		-160			
Emitter to Base Breakdown Voltage	V_{EBO}		$I_E=-1.0mA$ $I_C=0$	-5.0			V
Collector Cut-Off Current	I_{CBO}		$V_{CB}=-160V$ $I_E=0$			-10	A
DC Current Gain	$h_{FE(1)}$		$V_{CE}=-5.0V$ $I_C=-150mA$	60		320	
	$h_{FE(2)}$		$V_{CE}=-5.0V$ $I_C=-500mA$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$		$I_C=-500mA$ $I_B=-50mA$			-1.0	V
Base to Emitter Voltage	V_{BE}		$V_{CE}=-5.0V$ $I_C=-150mA$			-1.5	V
Transition Frequency	f_T		$V_{CE}=-5.0V$ $I_C=-150mA$		140		MHz
Collector output capacitance	C_{ob}		$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		27		pF

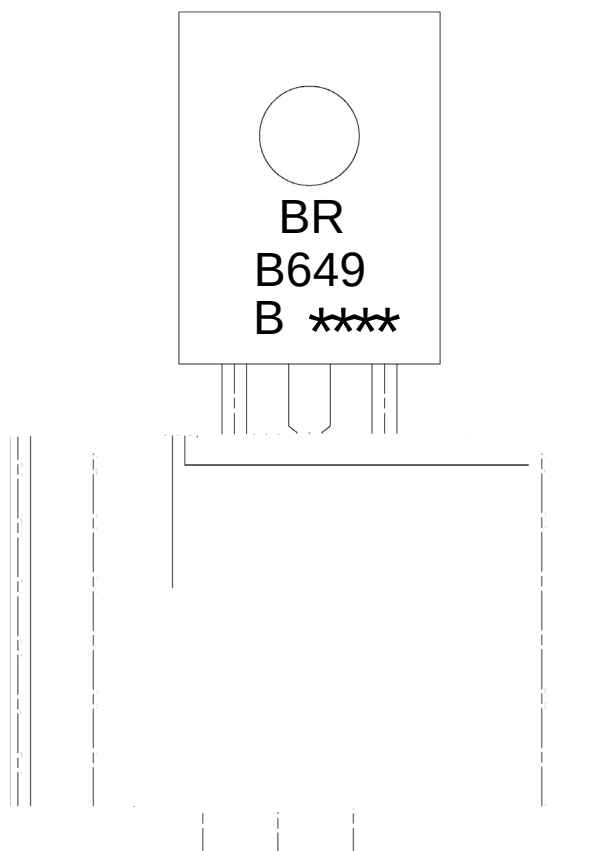
/ Electrical Characteristic Curve



/ Package Dimensions

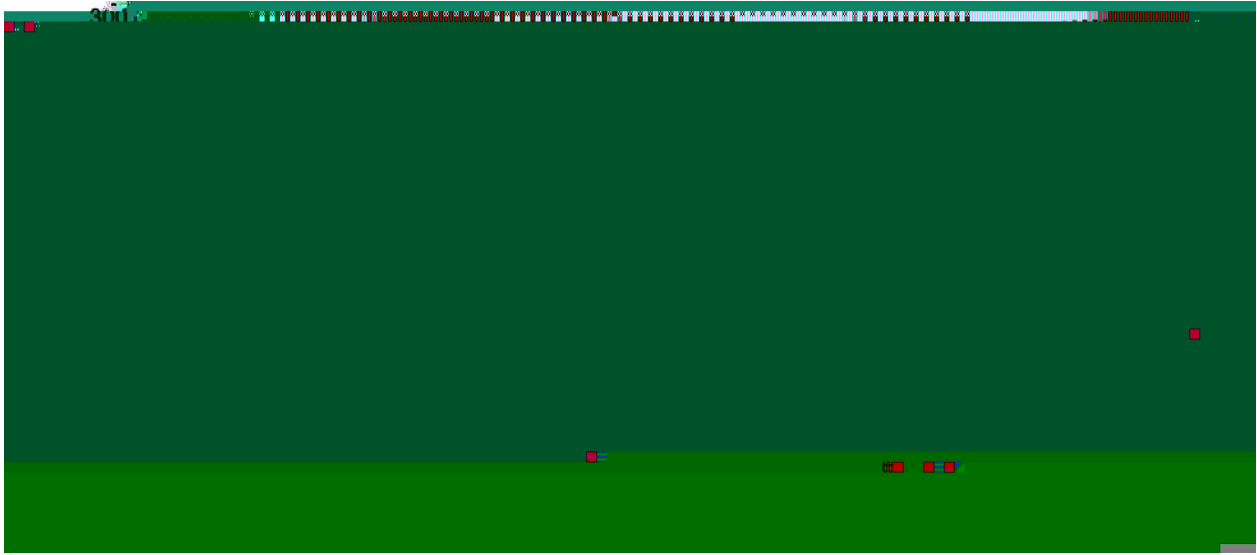


/ Marking Instructions



EU	N
E64<	N
E=	h_{IH}
----	N N
Note:	
BR:	Company Code
B649 :	Product Type.
B:	h_{FE} Classifications Symbol
****:	Lot No. Code, code change with Lot No.

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



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | 1 | 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	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-126/F	500	6	3,000	5	15,000	135×190	237×172×102	560×245×195

/ 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-126/F	65	26	1,690	5	8,450	532×31×5.6	555×164×50	575×290×180

/ Notices