/ Descriptions

SOT-89 NPN Silicon NPN transistor in a SOT-89 Plastic Package.

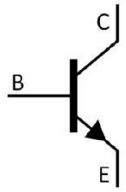
/ Features

High voltage.

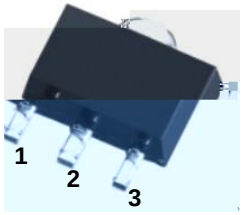
/ Applications

High voltage control circuit.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ Marking

Marking	H3D **

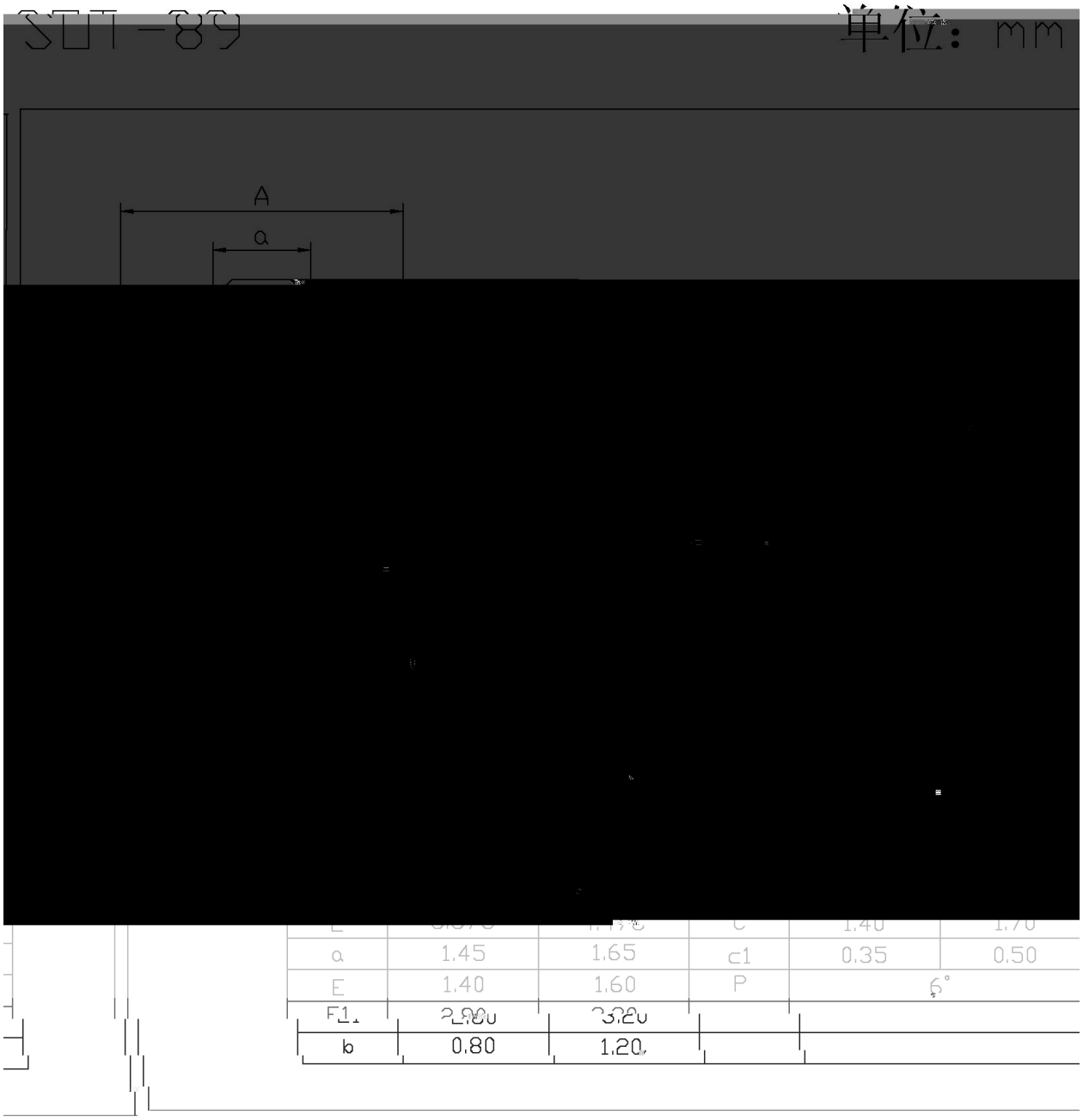
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	300	mA
Collector Power Dissipation	P_C	350	mW
Collector Power Dissipation	$P_{C(TC=25\ )}$	1.5	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

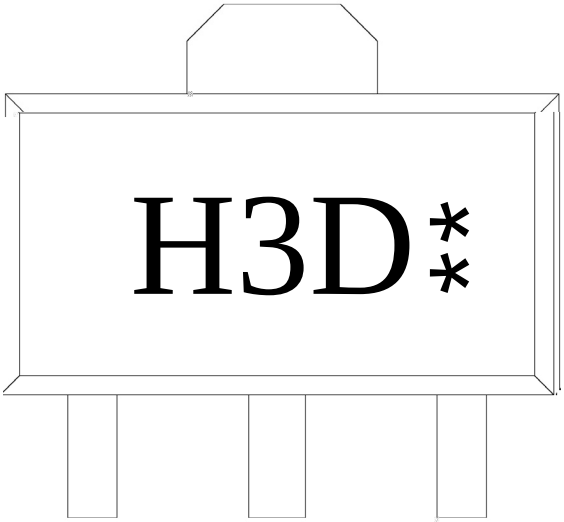
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=100 A I_E=0	500			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA I_B=0	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10 A I_C=0	6.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=400V I_E=0			0.1	A
Emitter Cut-Off Current	I_{CES}	V_{CE}=400V V_{BE}=0			1	A
Emitter Base Cut-Off Current	I_{EBO}	V_{BE}=4.0V I_C=0			0.1	A
DC Current Gain	$h_{FE(1)}$	V_{CE}=10V I_C=10mA	50		200	
	$h_{FE(2)}$	V_{CE}=10V I_C=100mA	40			
	$h_{FE(3)}$	V_{CE}=10V I_C=50mA	45			
	$h_{FE(4)}$	V_{CE}=10V I_C=1.0mA	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)\ (1)}$	I_C=1.0mA I_B=0.1mA			0.4	V
	$V_{CE(sat)\ (2)}$	I_C=10mA I_B=1.0mA			0.5	V
	$V_{CE(sat)\ (3)}$	I_C=50mA I_B=5.0mA			0.75	V
Emitter to Base Saturation Voltage	$V_{BE(sat)}$	I_C=10mA I_B=1.0mA			0.75	V
Collector-Base Capacitance	C_{ob}	V_{CB}=20V I_E=0 f=1.0MHz			7.0	pF

/ Package Dimensions



/ Marking Instructions



H

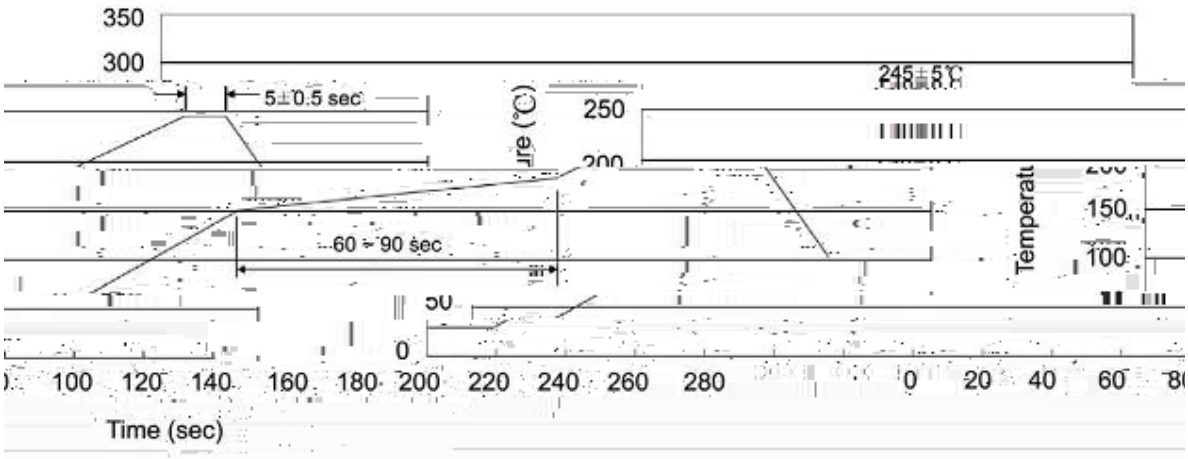
3D

**

Note:

H:	Company Code.
3D:	Product Type.
**:	Lot No. Code, code change with Lot No.

( ) / Whp shrdwxrh Prriioh irr IU Uhiorw Vroghriqj+Pe-Frhh,



Note:

1	150 180 60 90sec;	1.Preheating:150~180 , 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	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units