

**2SB647(A)T**  
Rev.A May.-2016

**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-120	V
Collector to Emitter Voltage	$V_{CEO}$	2SB647T	-80
		2SB647AT	-100
Emitter to Base Voltage	$V_{EBO}$	-5.0	V
Collector Current (DC)	$I_C$	-1.0	A
Collector Current(Pulse)	$I_{CP}$	-2.0	A
Collector Power Dissipation	$P_C$	500	mW
Collector Power Dissipation*	* $P_C$	1.0	W
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

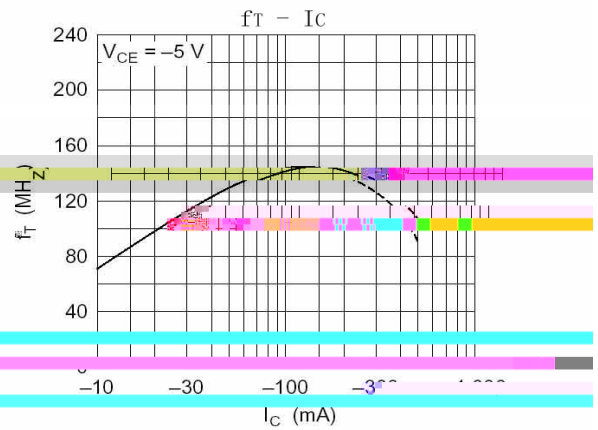
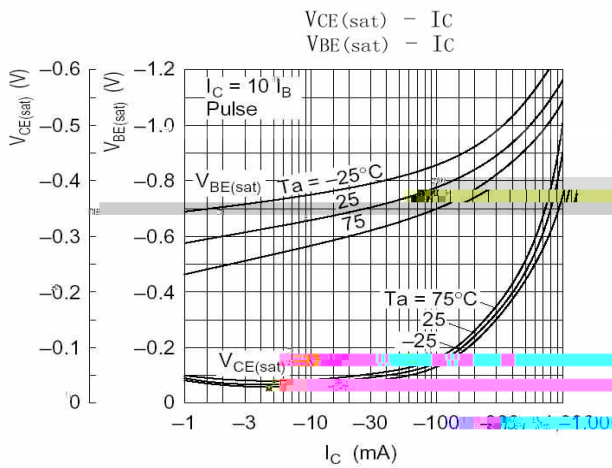
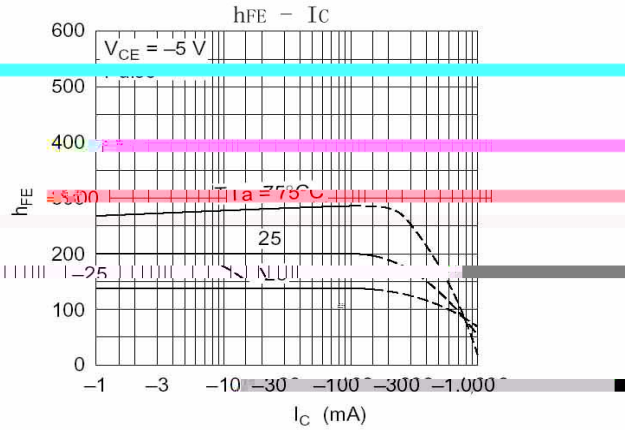
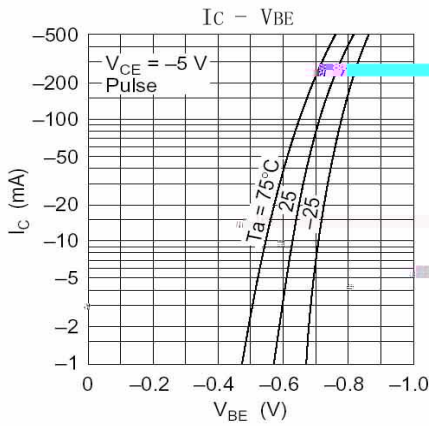
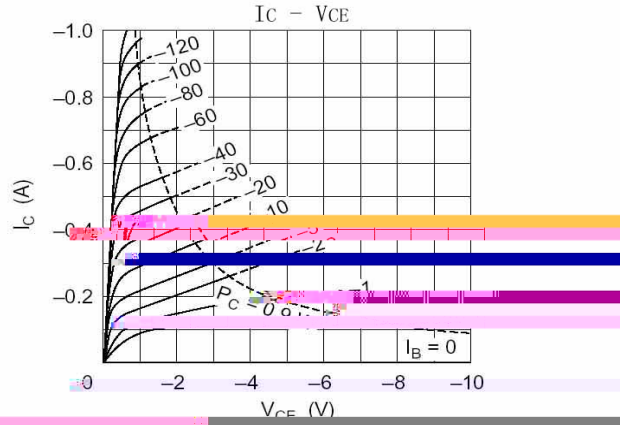
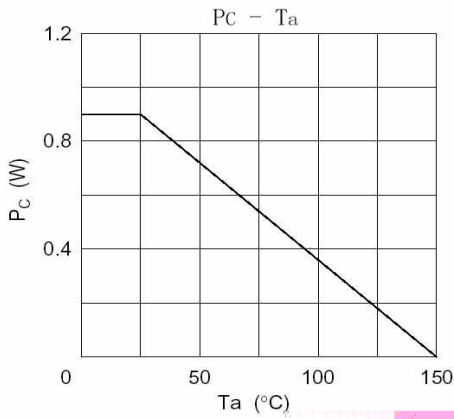
\*:mounted on ceramic substrate(250mm<sup>2</sup>×0.8t).

\* 250mm<sup>2</sup>×0.8t

**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=-10\mu A$ $I_E=0$	-120			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	2SB647T	-80			V
		2SB647AT	-100			
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=-10\mu A$ $I_C=0$	-5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-100V$ $I_E=0$			-10	$\mu A$
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	$C_{ob}$	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		12		pF

**/ Electrical Characteristic Curve**



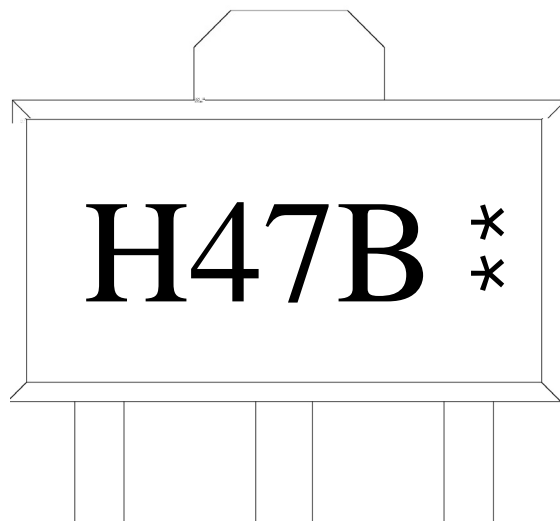
/ Package Dimensions

SOT-89

单位: mm



/ Marking Instructions



H:

47

B:

$h_{FE}$

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Note:

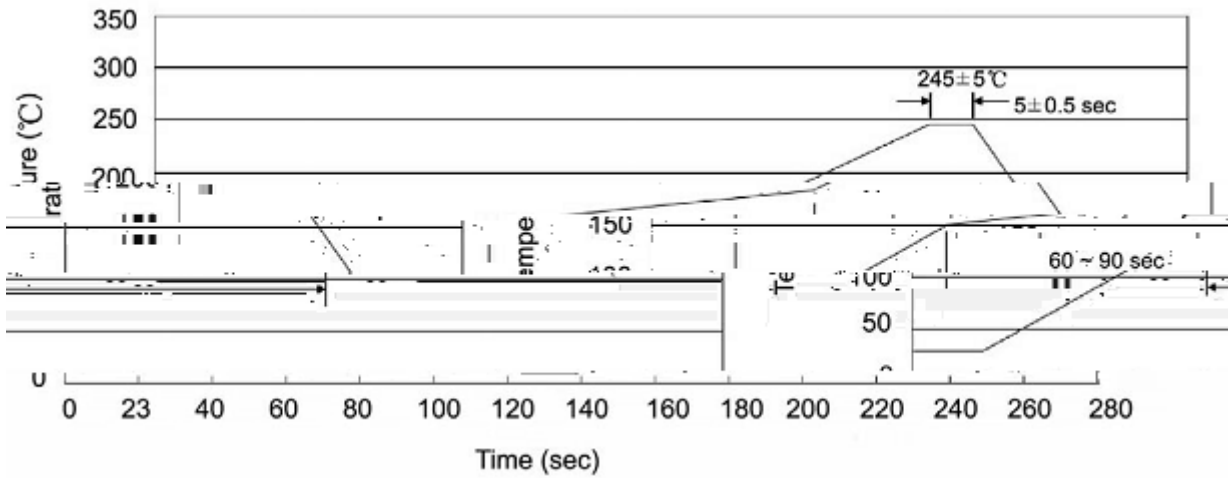
H: Company Code.

47: 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 | 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	只卷盘	卷盘盒	只盒	盒箱	只箱		盒	箱

/ Notices