

MMBTA05

Rev.F Apr.-2017

/ Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

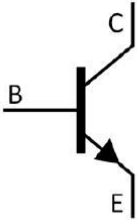
/ Features

Complementary to MMBTA55.

/ Applications

Ideal for medium power amplification and switching.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ Marking

h_{FE} Range	100 300
Marking	HK1H

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	4	V
Collector Current - Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

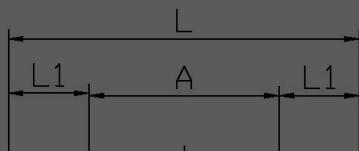
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\text{ A}$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	60			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=100\text{ A}$ $I_C=0$	4.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60\text{ V}$ $I_E=0$			0.1	A
Collector Cut-Off Current	I_{CES}	$V_{CE}=60\text{V}$ $I_E=0$			0.1	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0\text{V}$ $I_C=100\text{mA}$	100		300	
	$h_{FE(2)}$	$V_{CE}=1.0\text{V}$ $I_C=10\text{mA}$	100		300	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$ $I_B=10\text{mA}$			0.25	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$ $I_B=10\text{mA}$			1.2	V
Transition Frequency	f_T	$I_C=10\text{mA}$ $V_{CE}=2\text{V}$ $f=100\text{MHz}$	100			MHz

MMBTA05

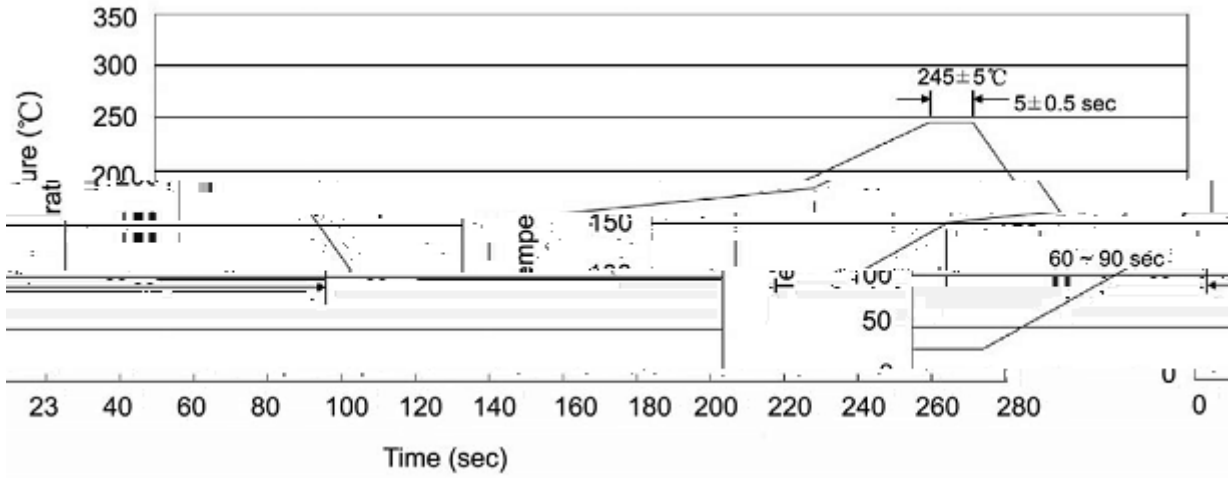
/ Package Dimensions

SOT-23

单位: mm



() / K\ d g\ iXk i\ 'Gif] \d]fi @ ' I \]fn Jfd \i'e ^ZGS=i\ \z



Note:

- | | | | | | |
|---|-----|-----|----|------------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 °C, Time:60~90sec. |
| 2 | 245 | 5 | 5 | 0.5sec; | 2.Peak Temp.:245 ± 5 °C, Duration:5 ± 0.5sec. |
| 3 | | | 2 | 10 °C/sec. | 3. Cooling Speed: 2~10 °C/sec. |

/ Resistance to Soldering Heat Test Conditions

260 ± 5 °C, 10 ± 1 sec. Temp:260 ± 5 °C Time:10 ± 1 sec

/ Packaging SPEC.

/ REEL

Package Type Units