

# PBSS4140S

Rev.E Mar.-2016

## / Descriptions

TO-92          NPN          Silicon NPN transistor in a TO-92 Plastic Package.

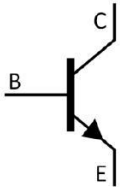
## / Features

High  $P_C$ , low  $V_{CE(sat)}$ , high current switching.

## / Applications

Medium power switching and muting, linear regulators, LCD back-lighting, supply line switching circuits.

## / Equivalent Circuit



## / Pinning



PIN1 Base          PIN 2 Collector          PIN 3 Emitter

## / hFE Classifications & Marking

See Marking Instructions.

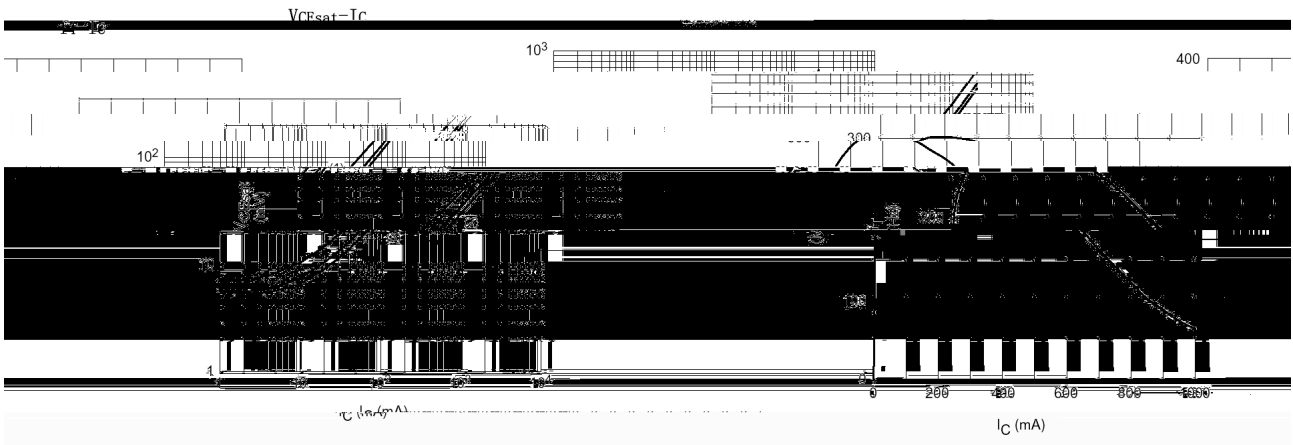
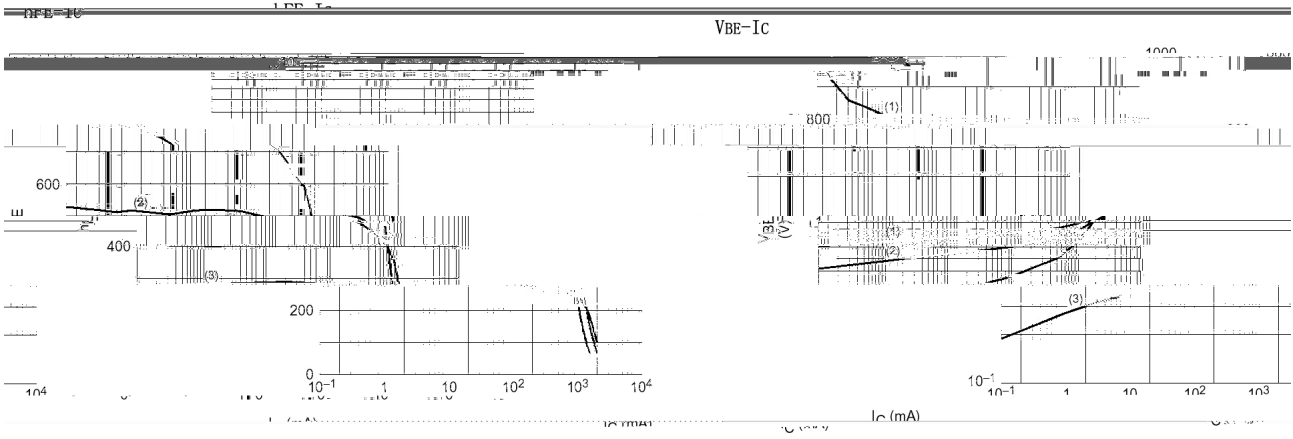
## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	40	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	1.0	A
Peak Collector Current	$I_{CM}$	2.0	A
Peak Base Current	$I_{BM}$	1.0	A
Collector Power Dissipation	$P_C$	830	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 Cut-Off Current	$I_{CBO}$	$V_{CB}=40V$ $I_E=0$			0.1	$\mu A$
Collector Cut-Off Current	$I_{CEO}$	$V_{CE}=30V$ $I_B=0$			0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=500mA$	300		900	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=1.0mA$	300			
	$h_{FE(3)}$	$V_{CE}=5.0V$ $I_C=1.0A$	200			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=100mA$ $I_B=1.0mA$			200	mV
	$V_{CE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			250	mV
	$V_{CE(sat)(3)}$	$I_C=1.0A$ $I_B=100mA$			500	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.0A$ $I_B=100mA$			1.2	V
Base to Emitter Voltage	$V_{BE}$	$V_{CE}=5.0V$ $I_C=1.0A$			1.1	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $f=100MHz$ $I_C=50mA$	150			MHz
Collector Capacitance	$C_C$	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$			10	pF

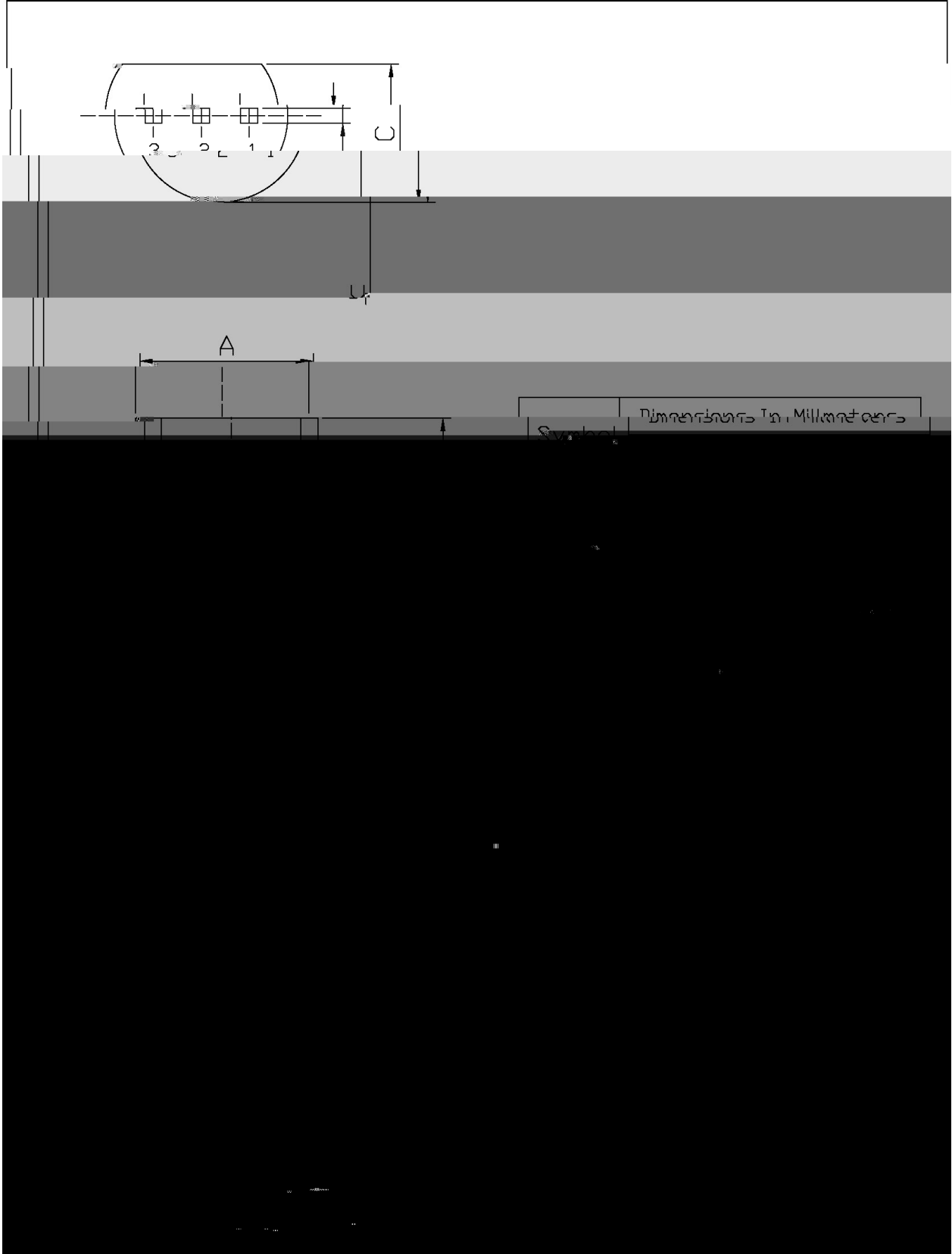
/ Electrical Characteristic Curve



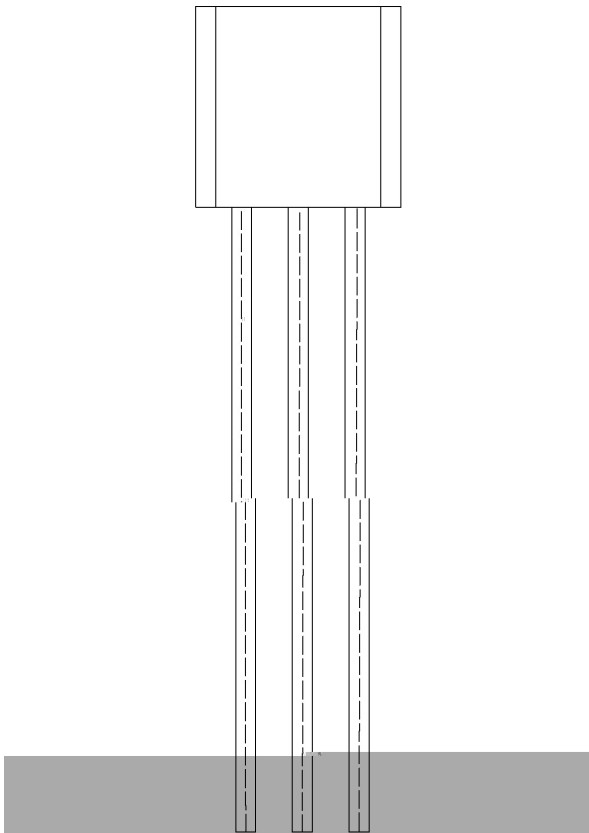
/ Package Dimensions

TO-92

Unit: mm



**/ Marking Instructions**



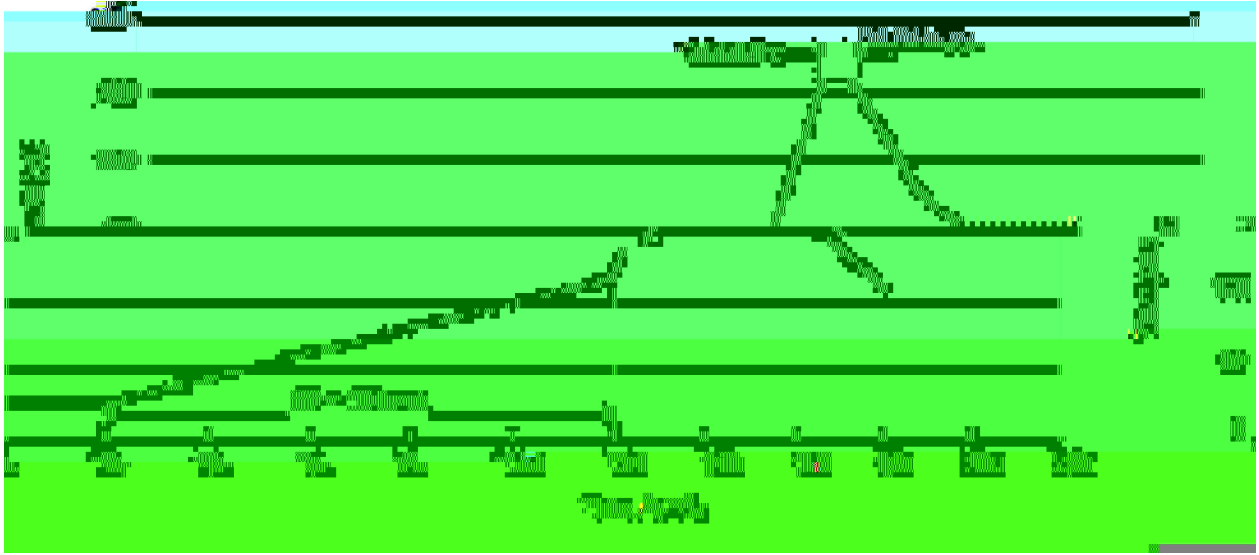
BR:

4140S

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-566.7( )-7371.1( )-7371.1Lot No. Cod.,code change with Lot No.

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



- |   |       |     |           |        |   |                                      |
|---|-------|-----|-----------|--------|---|--------------------------------------|
| 1 | 25    | 150 | 60        | 90sec; | Note:                                   | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 |     | 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

dBW(37#y)