/ Descriptions

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

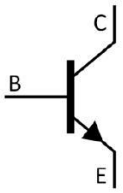
/ Features

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.

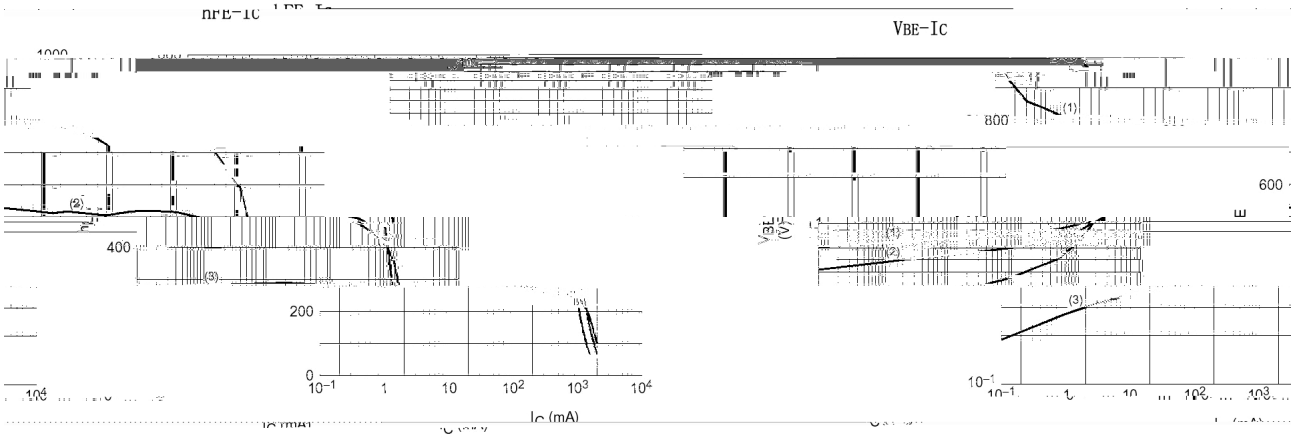
/ Absolute Maximum Ratings(Ta=25)

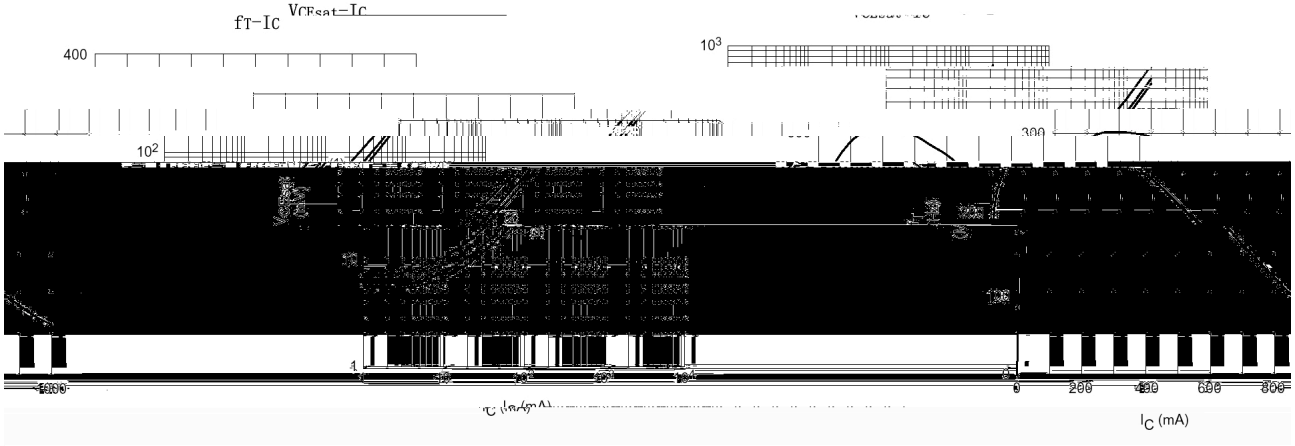
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Peak Base Current	I_{BM}	1.0	A
Collector Power Dissipation	P_C	830	mW
Junction 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	μA
Collector Cut-Off Current	I_{CEO}	V_{CE}=30V I_B=0			0.1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			0.1	μA
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 I_C=50mA f=100MHz	150			MHz
Collector Capacitance	C_C	V_{CB}=10V I_E=0 f=1.0MHz			10	pF

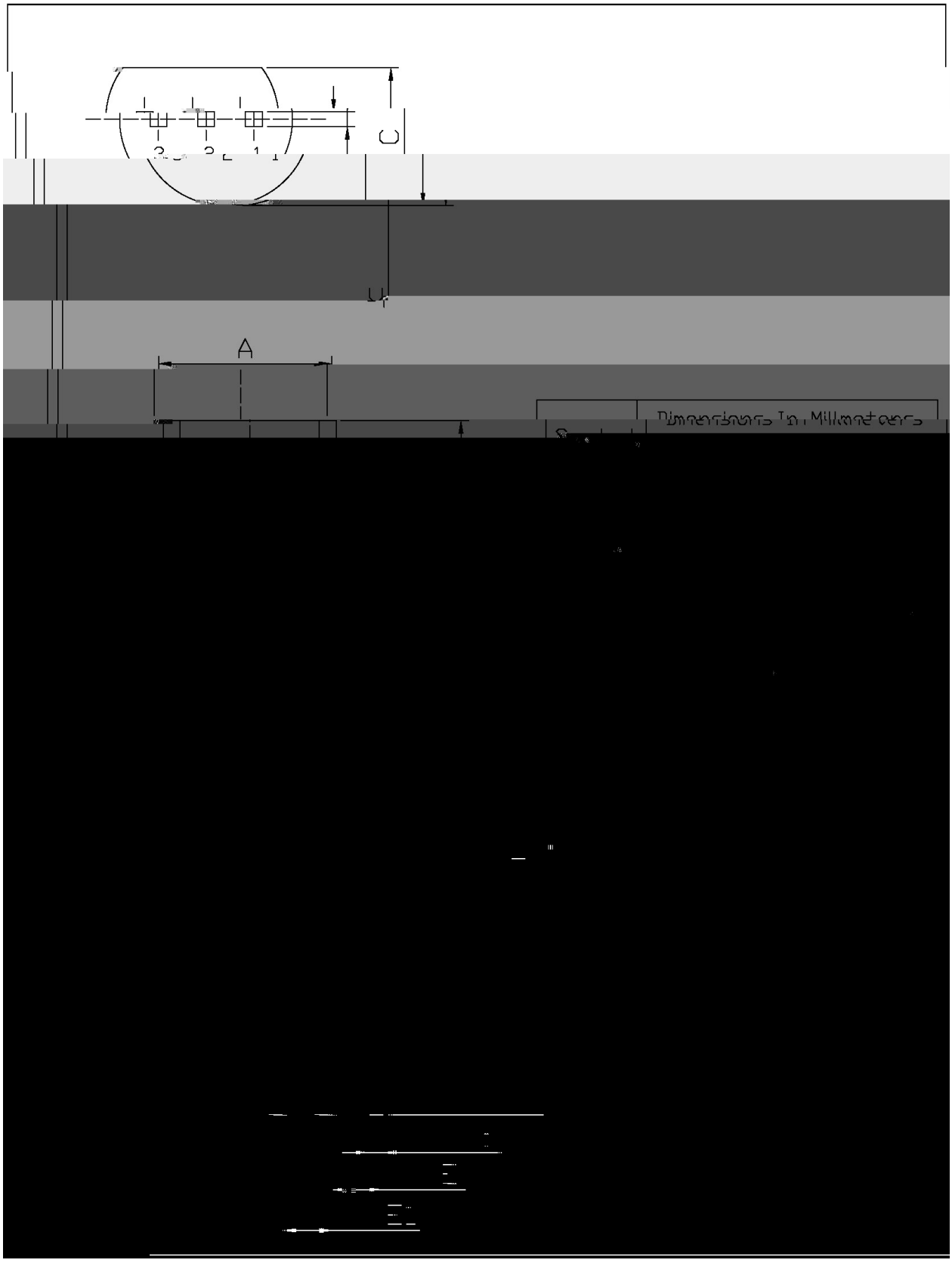
/ Electrical Characteristic Curve



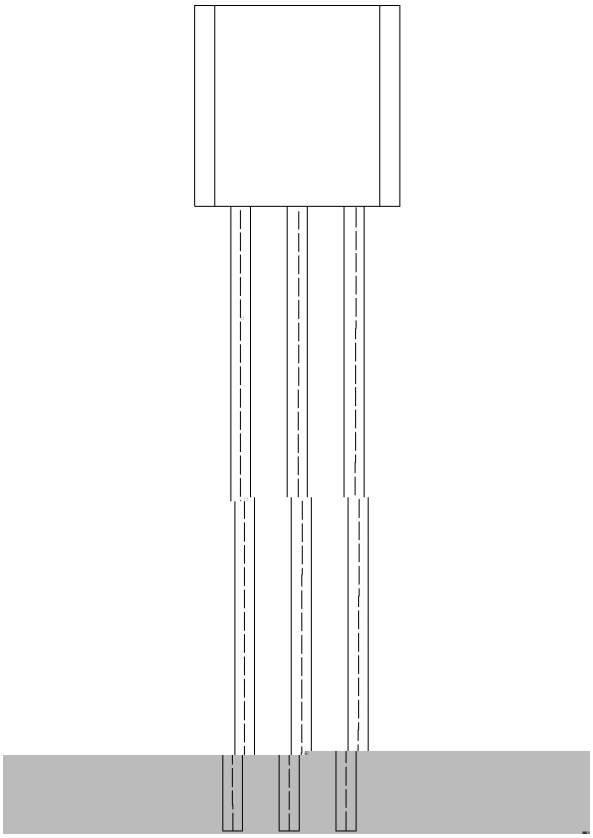


/ Package Dimensions

TO-92 Unit: mm



/ Marking Instructions



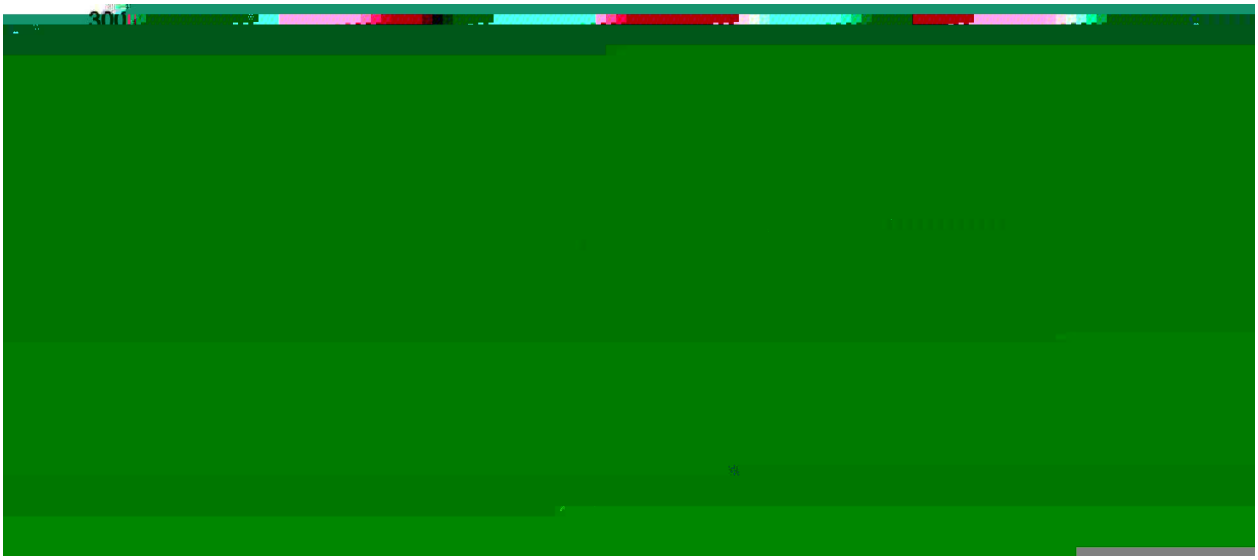
BR:

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)



					Note:
1	25	150	60	90sec;	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

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