

9012

Rev.E Mar.-2016

TO-92

PNP

Silicon PNP transistor in a TO-92 Plastic Package.

P_C I_C , h_{FE} , 9013
High P

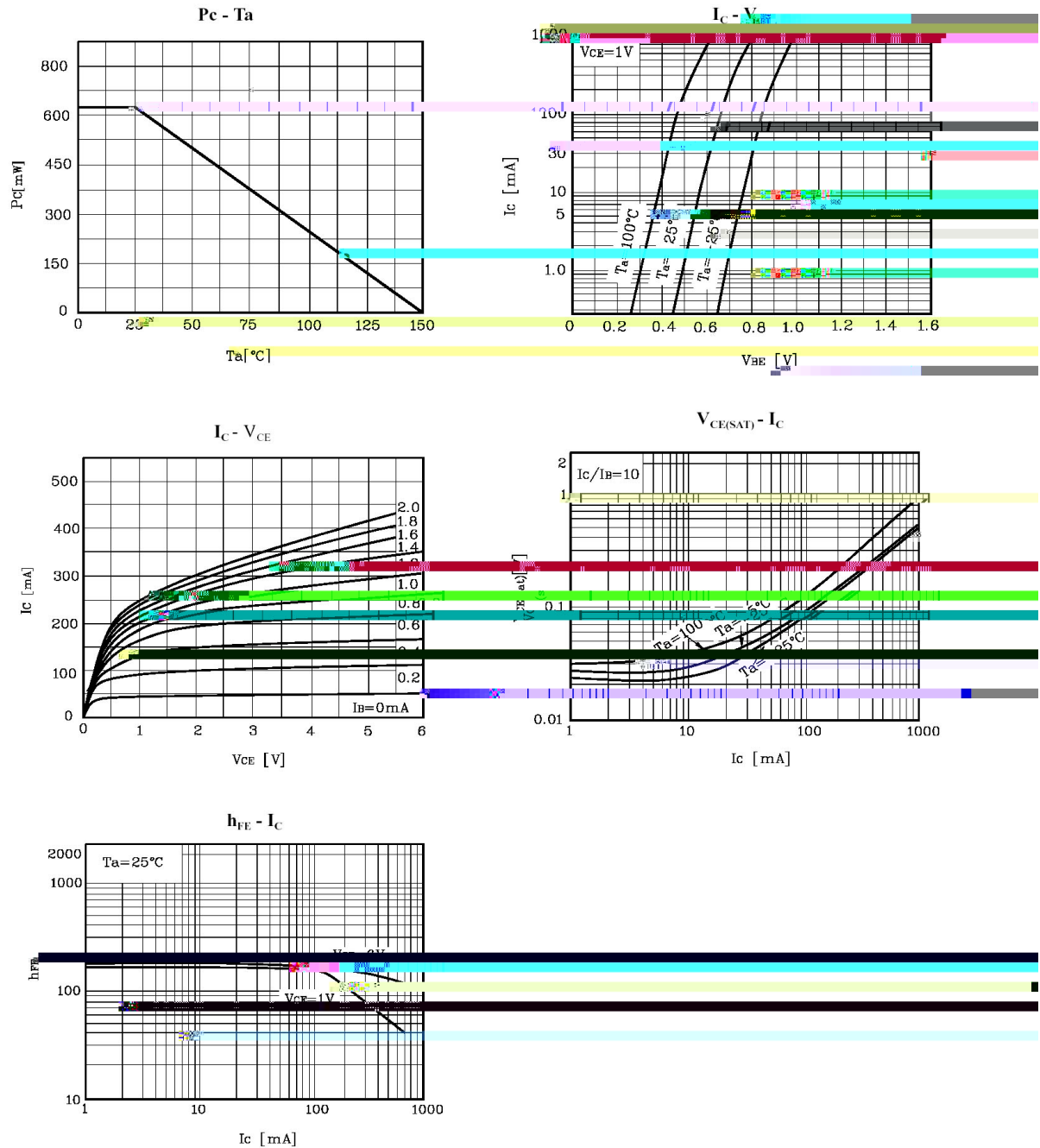
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-20	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-500	mA
Base Current - Continuous	I_B	-100	mA
Collector Power Dissipation	P_C	625	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}	$I_C = -0.1mA$ $I_E = 0$	-40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -1.0mA$ $I_B = 0$	-20			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -0.1mA$ $I_C = 0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -25V$ $I_E = 0$			-0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -3.0V$ $I_C = 0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -1.0V$ $I_C = -50mA$	64		276	
	$h_{FE(2)}$	$V_{CE} = -1.0V$ $I_C = -500mA$	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-0.18	-0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-0.95	-1.2	V
Base to Emitter Voltage	V_{BE}	$V_{CE} = -1.0V$ $I_C = -10mA$		-0.67	-0.7	V

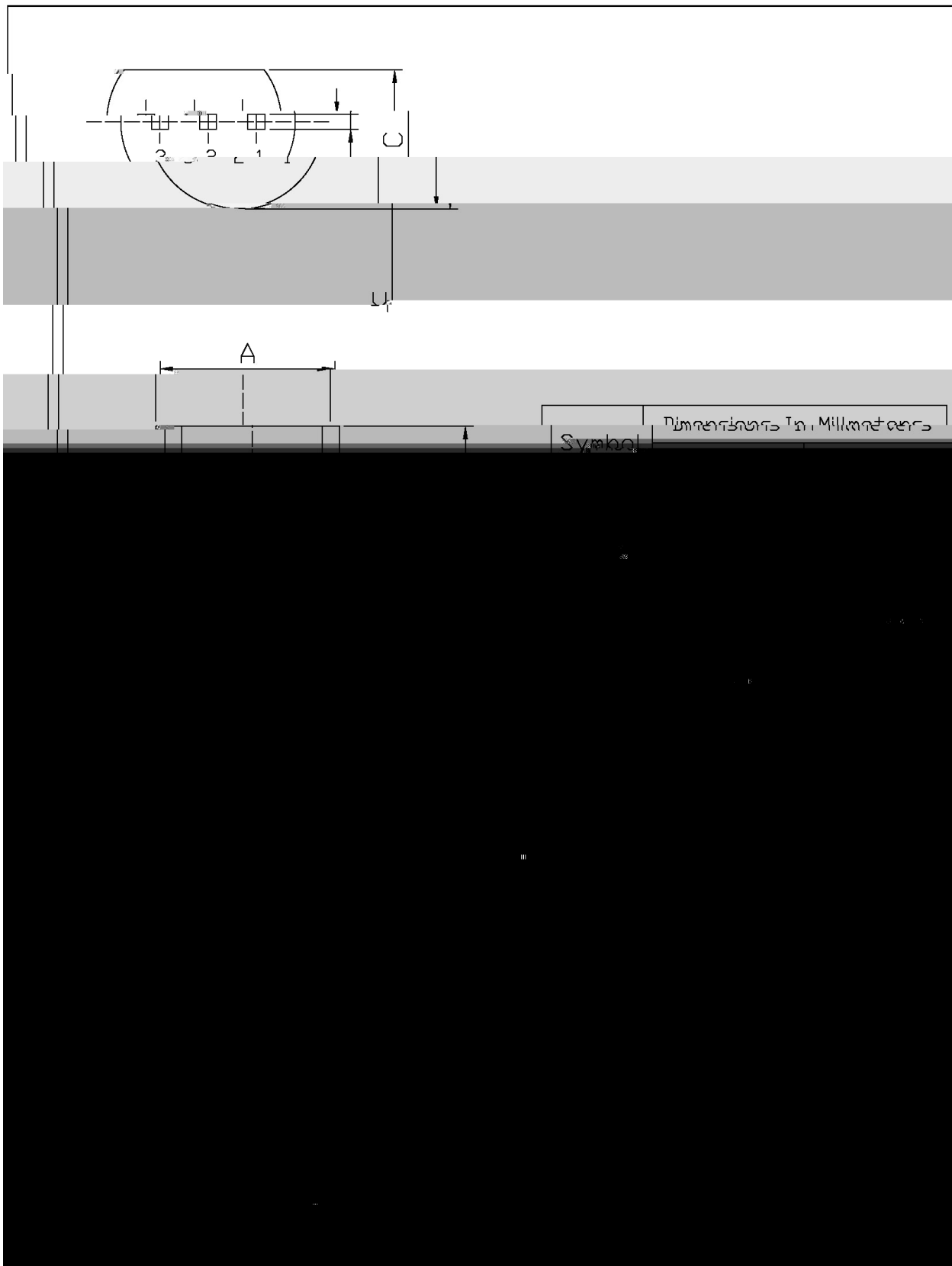
/ Electrical Characteristic Curve



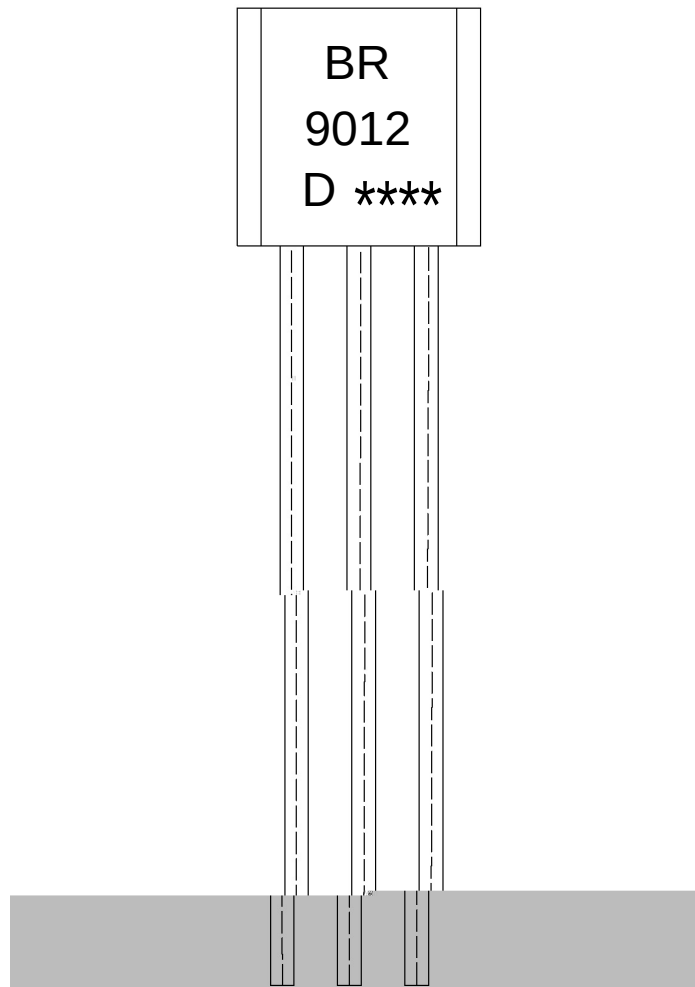
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR

9012

D: h_{FE}

Note:

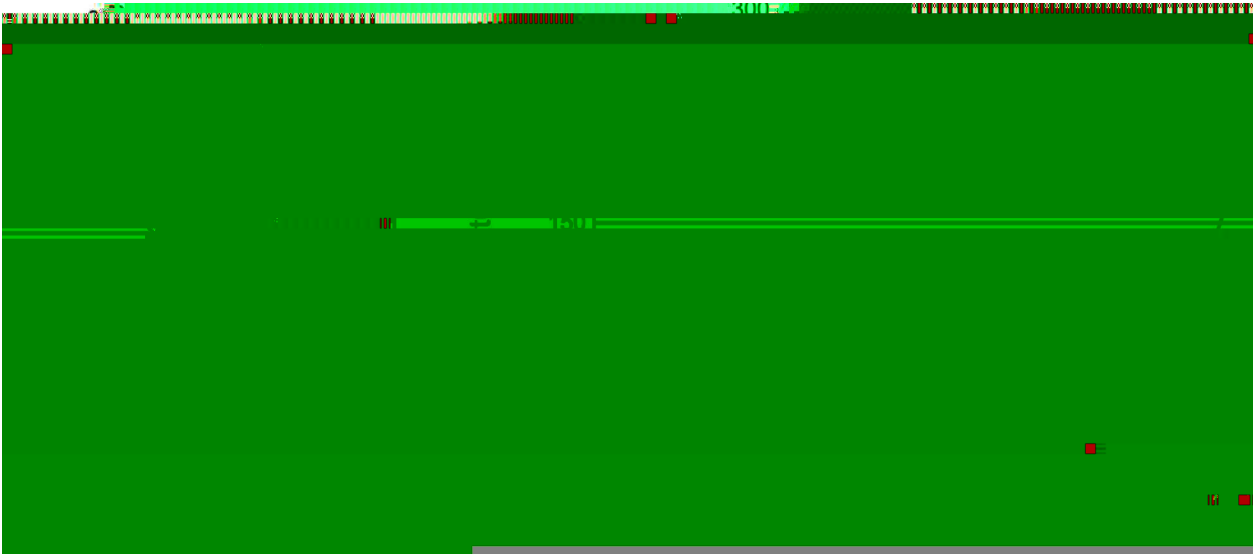
BR: Company Code.

9012: Product Type.

D: 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	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
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/ Packaging SPEC.

/ BULK

Packag100±1°C=€