/ Descriptions

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

/ Features

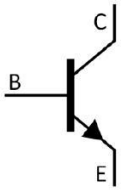
I_{CBO}, $V_{CE(sat)}$

Low Leakage current, Low collector saturation voltage enabling low voltage operation.

/ Applications

General purpose amplifier.

/ Equivalent Circuit



/ Pinning

PIN1 Collector PIN 2 Base PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

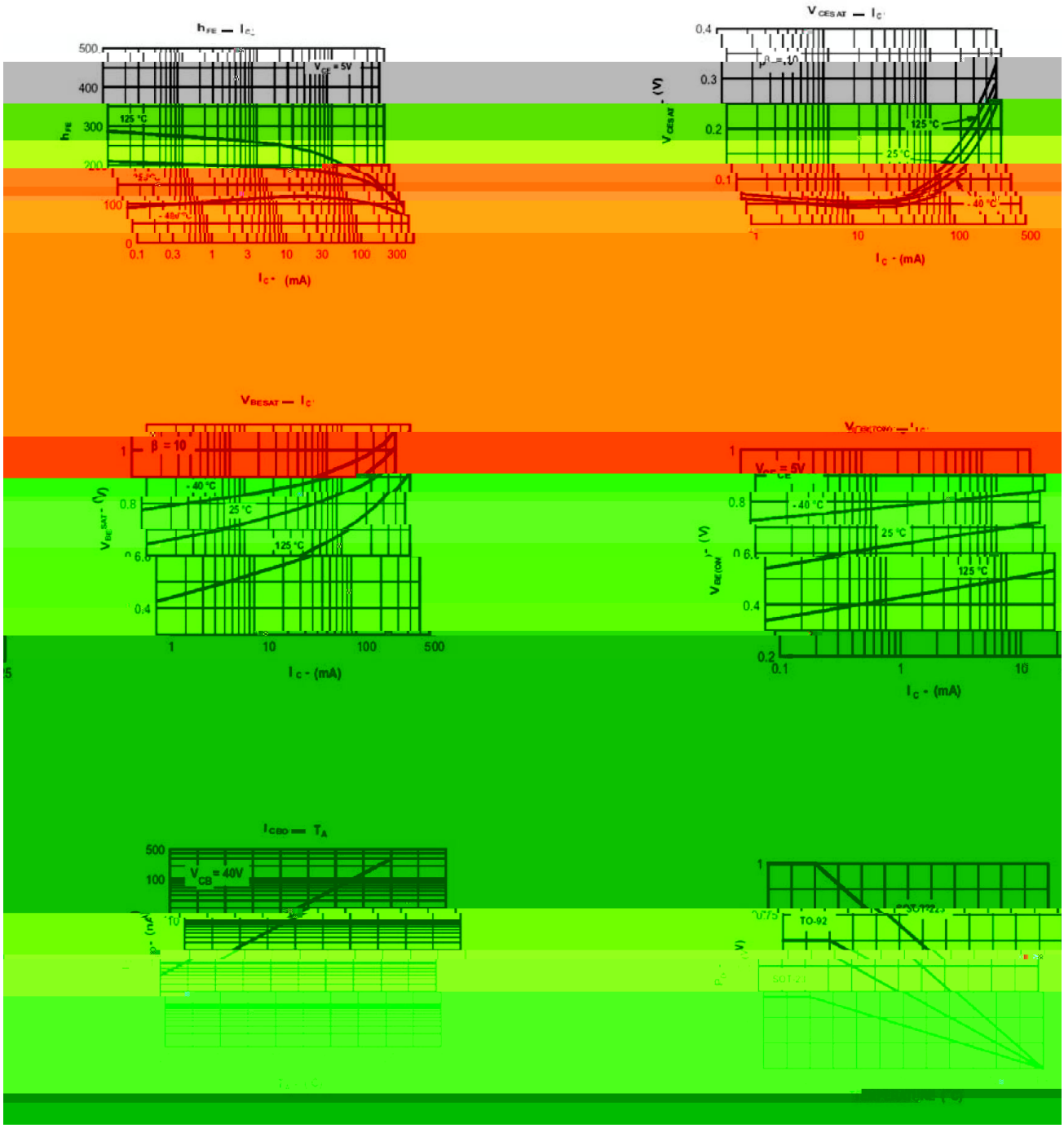
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

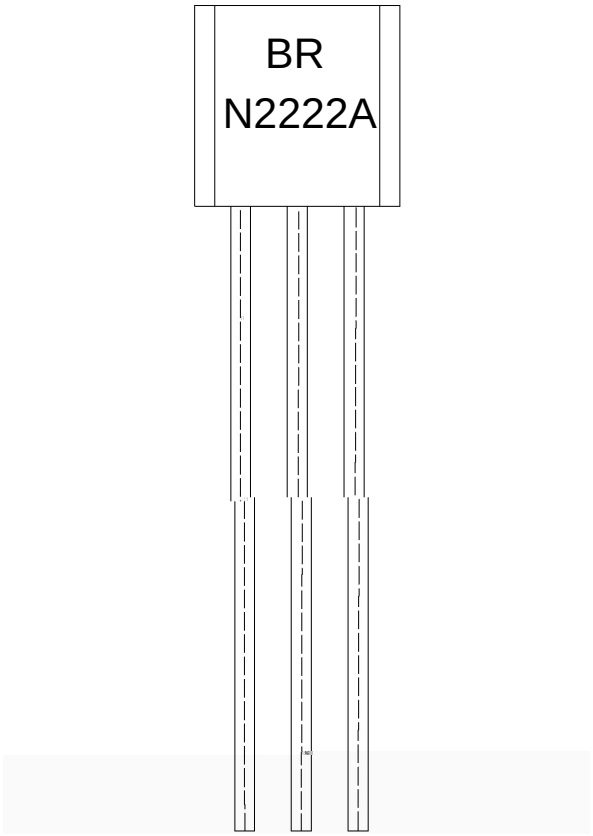
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=10μA I_E=0	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=10mA I_B=0	40			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10μA I_C=0	6.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=60V I_E=0			0.01	μA
Emitter Cut-Off Current	$I_{EBO(1)}$	V_{EB}=3.0V I_C=0			0.01	μA
	$I_{EBO(2)}$	V_{EB}=5.0V I_C=0			0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=10V I_C=150mA*	100		300	
	$h_{FE(2)}$	V_{CE}=10V I_C=0.1mA	40			
	$h_{FE(3)}$	V_{CE}=10V I_C=500mA*	42			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	I_C=150mA I_B=15mA			0.3	V
	$V_{CE(sat)(2)}$	I_C=500mA I_B=50mA			0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	I_C=150mA I_B=15mA		0.6	1.2	V
	$V_{BE(sat)(2)}$	I_C=500mA I_B=50mA			1.2	V
Transition Frequency	f_T	V_{CE}=20V I_C=20mA f=100MHz	300			MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1.0MHz			8.0	pF
Turn-On Time	T_{on}	V_{CC}=30V $V_{BE(OFF)}$=0.5V I_C=150mA I_{B1}=15mA			35	ns
Turn-Off Time	T_{off}	V_{CC}=30V I_C=150mA I_{B1}=I_{B2}=15mA			285	ns
Noise Figure	NF	I_C=100μA V_{CE}=10V R_S=1.0KΩ f=1.0KHz			4.0	dB

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

/ Electrical Characteristic Curve



/ Marking Instructions



BR:

N2222A

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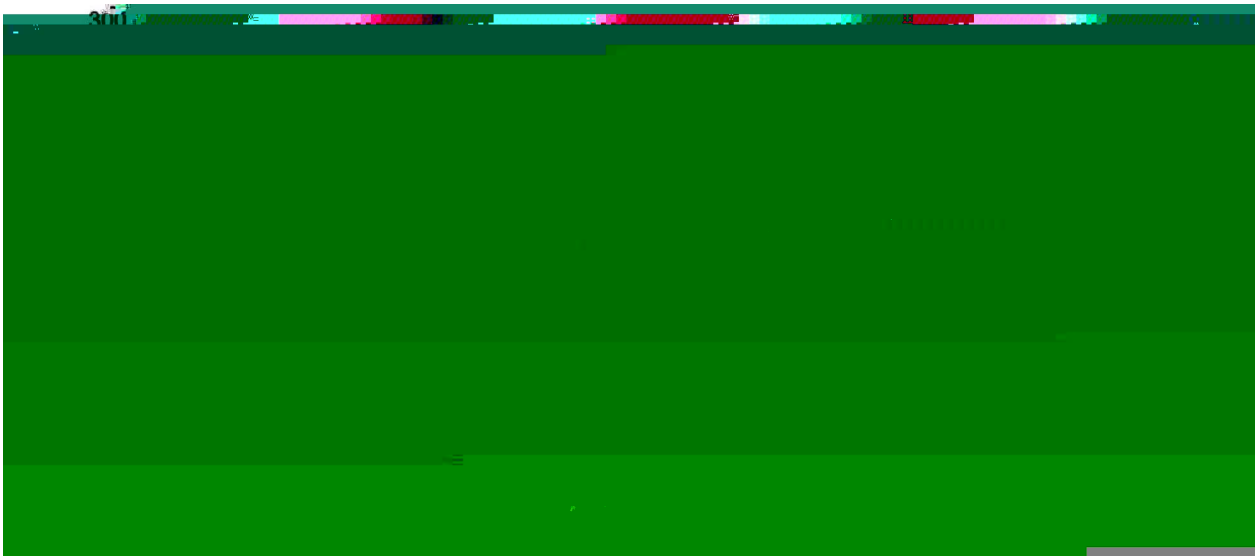
Note:

BR:	Company Code.
N2222A:	Product Type Code.
****:	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

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	只 袋	袋 盒	只 盒	盒 箱	只 箱	袋	盒	箱

/ AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	只 纸带	纸带 盒	纸带层 盒	盒 箱	只 箱	盒	箱

小箱 ,
大箱