MJD112

Rev.F Nov.-2023

蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

TO-252	NPN	Silicon NPN transistor in a TO-252 Plastic Package.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	2.0	A
Collector Current – Continuous(Pulse)	$I_{C(Pulse)}$	4.0	A
Base Current - Continuous	I_B	50	mA
Collector Power Dissipation	P_C	1.75	W
Collector Power Dissipation	P_C(T_C=25℃)	20	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 150	℃

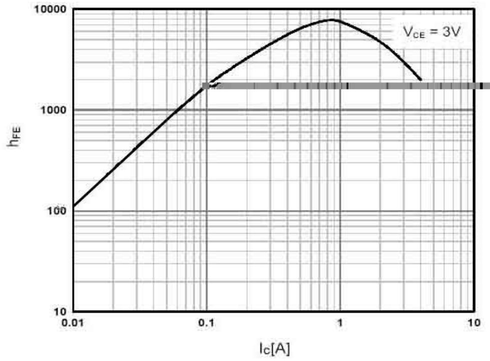
Pulse Test:PW≤300μs,Duty Cycle≤2%

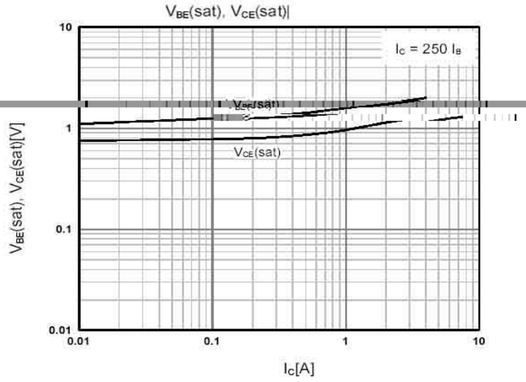
/ Electrical Characteristics(Ta=25)

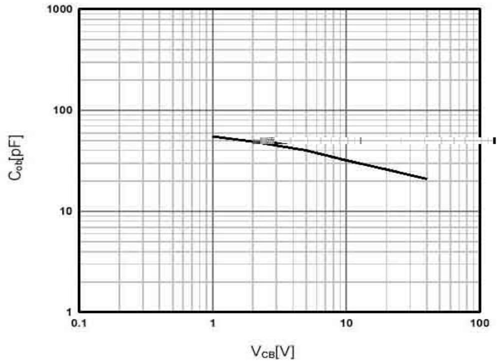
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage*	V_{CEO*}	I_C=10mA I_B=0	100			V
Collector Cut-Off Current	I_{CEO}	V_{CE}=50V I_B=0			0.02	mA
Collector Cut-Off Current	I_{CBO}	V_{CB}=100V I_E=0			0.02	mA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			2.0	mA
DC Current Gain	$h_{FE(1)*}$	V_{CE}=3.0V I_C=2.0A	1000		12K	
	$h_{FE(2)*}$	V_{CE}=3.0V I_C=0.5A	500			
	$h_{FE(3)*}$	V_{CE}=3.0V I_C=4.0A	200			
Collector-Emitter Saturation Voltage	$V_{CE(sat)1*}$	I_C=2.0A I_B=8.0mA			2.0	V
	$V_{CE(sat)2*}$	I_C=4.0A I_B=40mA			3.0	V
Base-Emitter Saturation Voltage*	$V_{BE(sat)*}$	I_C=4.0A I_B=40mA			4.0	V
Base-Emitter-On Voltage*	$V_{BE(on)*}$	V_{CE}=3.0V I_C=2.0A			2.8	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V I_C=0.75A	25			MHz
Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=0.1MHz			100	pF

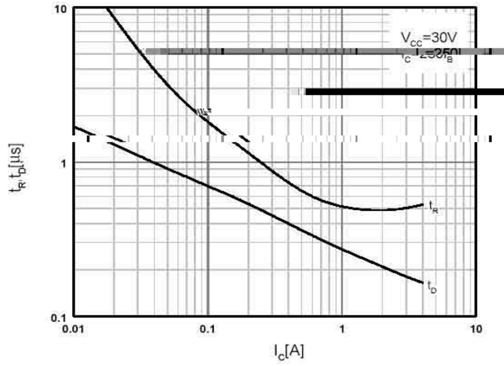
*Pulse Test:Pulse Width≤380us,Duty Cycle≤2%. * ≤380us, ≤2%

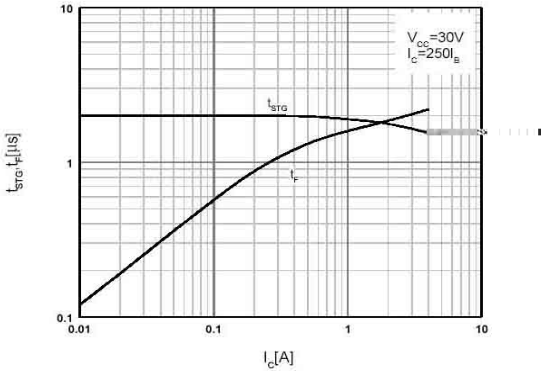
/ Electrical Characteristic Curve

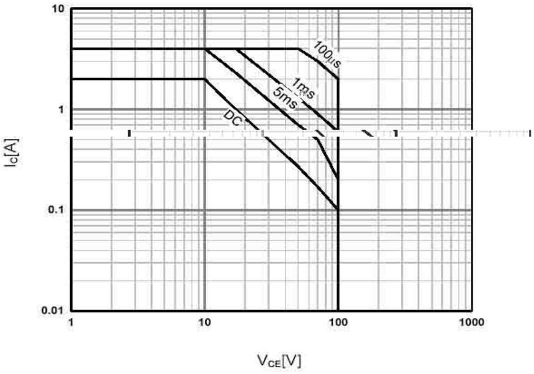


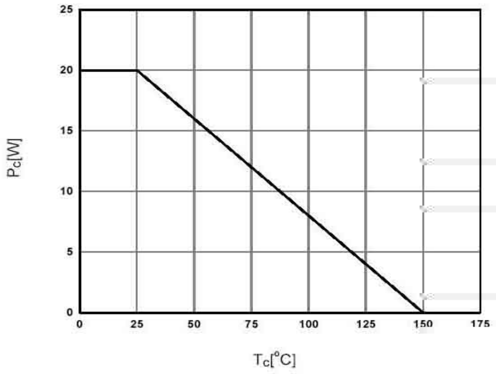




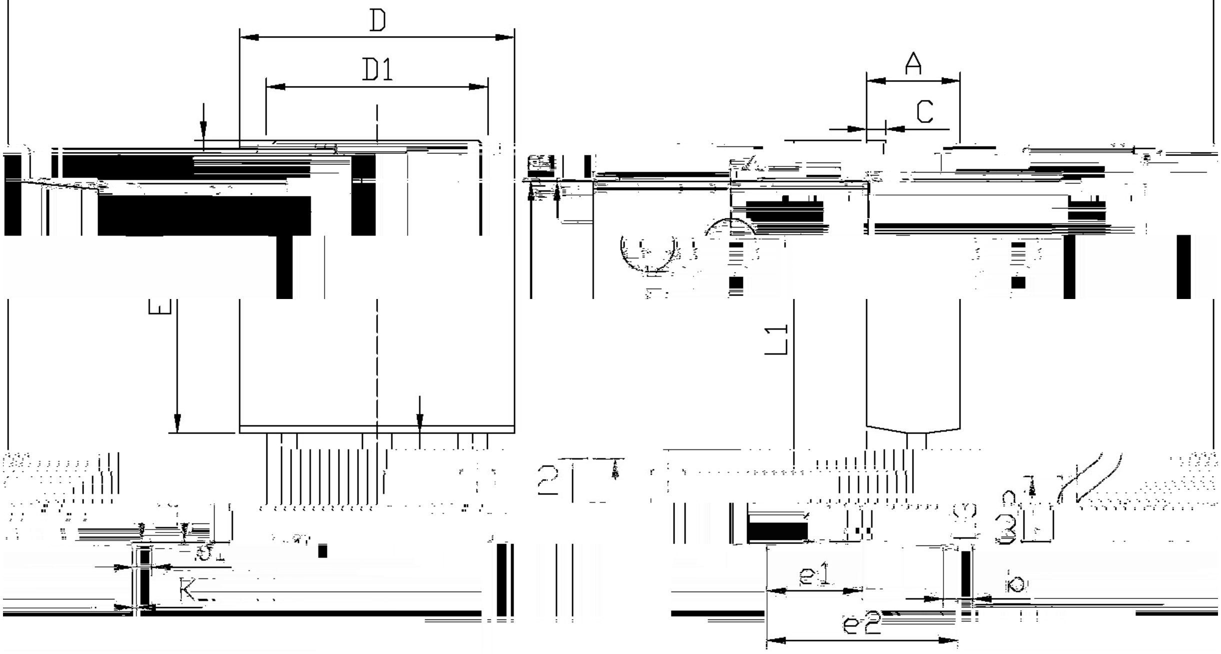








/ Package Dimensions

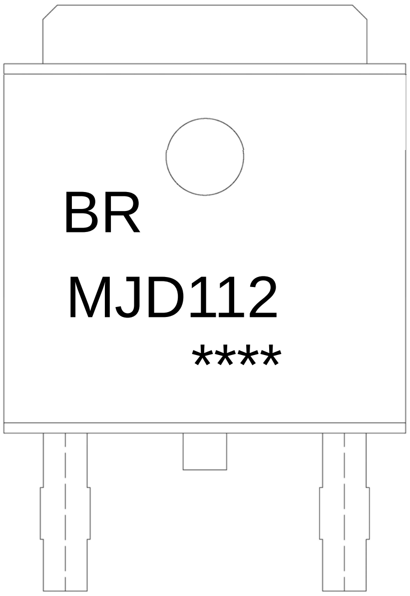


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.50	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.45	9.95
C	0.45	0.55	L2	1.25	1.75
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252

/ Marking Instructions



BR

MJD112

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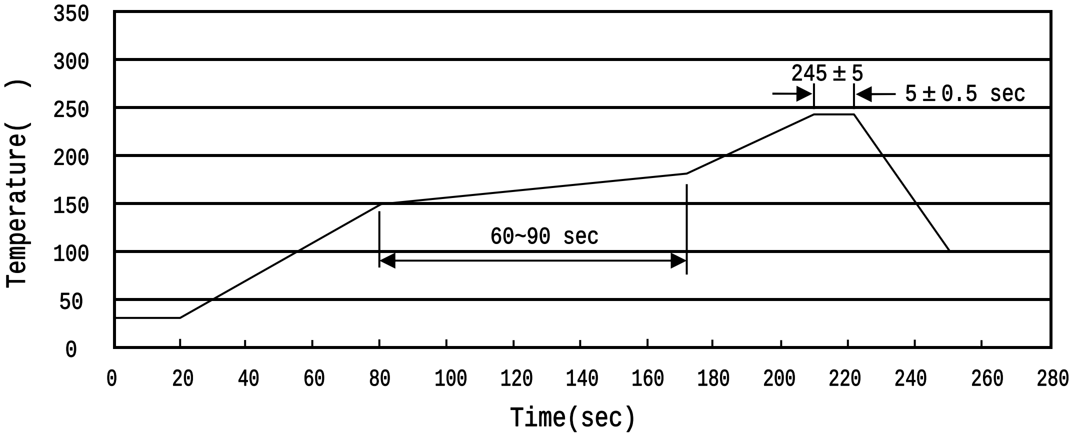
Note:

BR:	Company Code
MJD112:	Product Type
****:	Lot No. Code, code change with Lot No

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 2 10 /sec.

Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec.

Temp.:260±5℃ Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices