

MJE15030

Rev. H Oct.-2018

/ Descriptions

TO-220 NPN Silicon NPN transistor in a TO-220 Plastic Package.

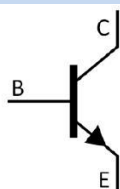
/ Features

- MJE15031
High DC current gain, High V_{CE0} , High f_T , Complementary pair with MJE15031.

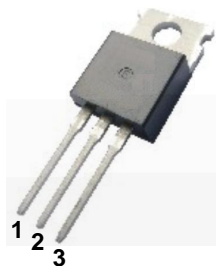
/ Applications

Designed for us as high-frequency drivers in audio amplifiers.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

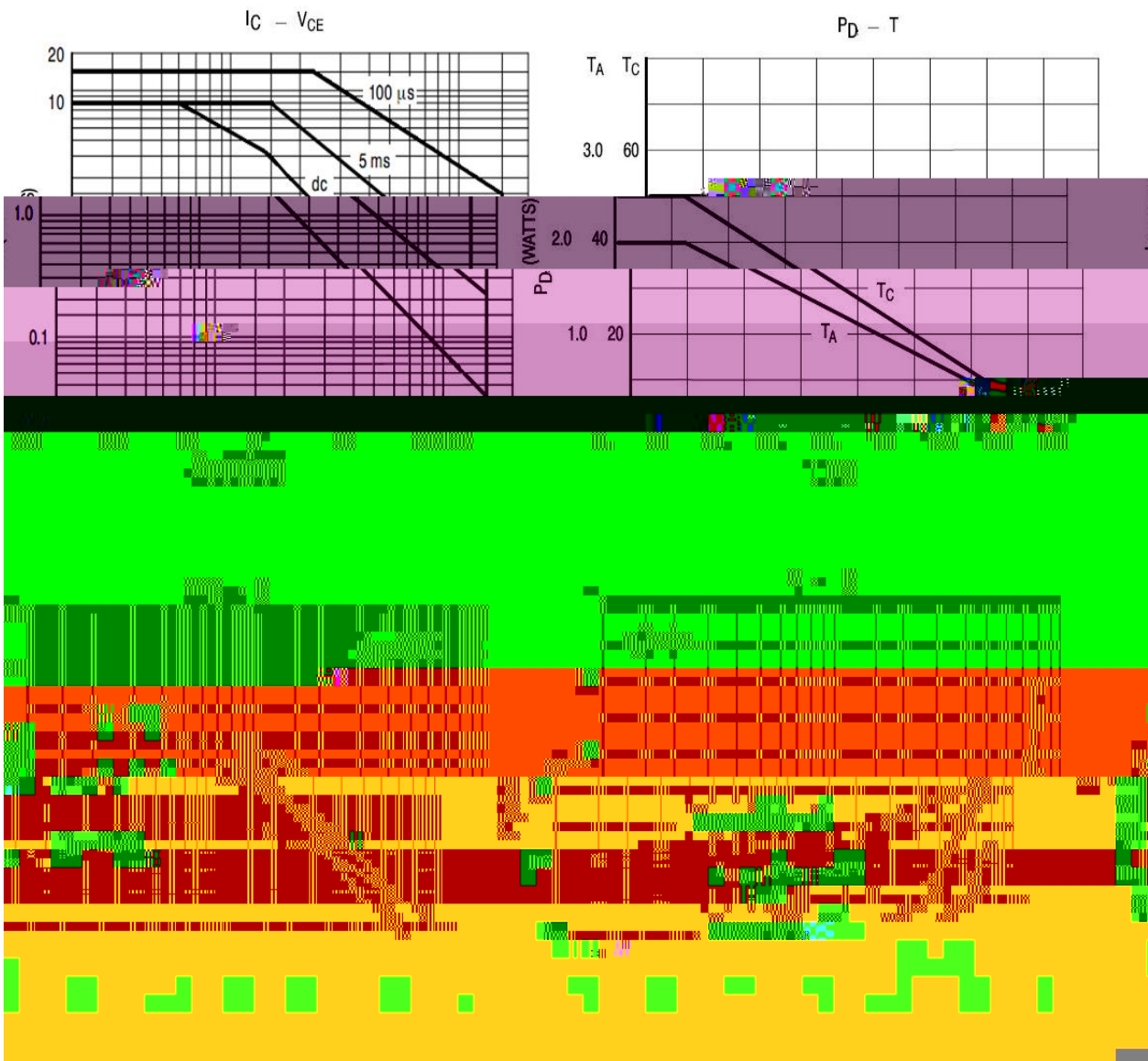
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	150	V
Collector to Emitter Voltage	V_{CEO}	150	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	8.0	A
Base Current- Continuous	I_B	2.0	A
Total Power Dissipation	P_D	2.0	W
	$P_D(T_c=25)$	50	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-65 150	
Thermal Resistance Junction-to-Case	R_{JC}	2.5	/W
Thermal Resistance Junction-to-Ambient	R_{JA}	62.5	/W

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage*	$*V_{CEO}$	$I_C=10mA$ $I_B=0$	150			V
Collector Cut-Off Current	I_{CEO}	$V_{CE}=150V$ $I_B=0$			0.1	mA
Collector Cut-Off Current	I_{CBO}	$V_{CB}=150V$ $I_E=0$			10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{BE}=5V$ $I_C=0$			10	μA
DC Current Gain	$*h_{FE(1)}$	$V_{CE}=2V$ $I_C=2A$	40		160	
	$*h_{FE(2)}$	$V_{CE}=2V$ $I_C=0.1A$	40			
	$*h_{FE(3)}$	$V_{CE}=2V$ $I_C=3A$	40			
	$*h_{FE(4)}$	$V_{CE}=2V$ $I_C=4A$	20			
Collector to Emitter Saturation Voltage*	$*V_{CE(sat)}$	$I_C=1A$ $I_B=0.1A$			0.5	V
Base to Emitter On Voltage*	$*V_{BE(on)}$	$V_{CE}=2V$ $I_C=1A$			1.0	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=500mA$ $f=1MHz$	30			MHz

* $300\mu s$ 2% *Pulse Test: Pulse Width $300\mu s$, Duty Cycle 2%.

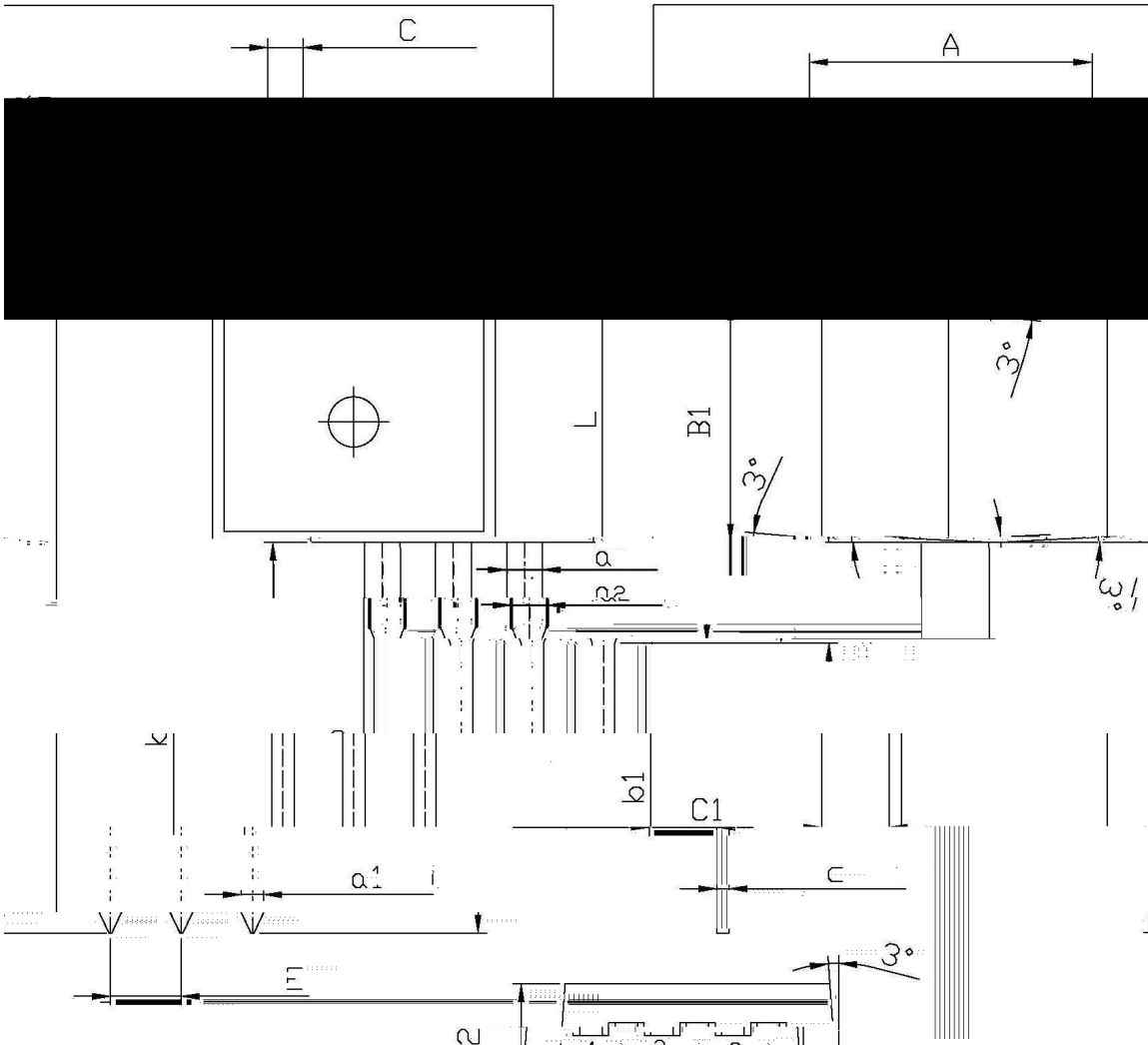
/ Electrical Characteristic Curve



/ Package Dimensions

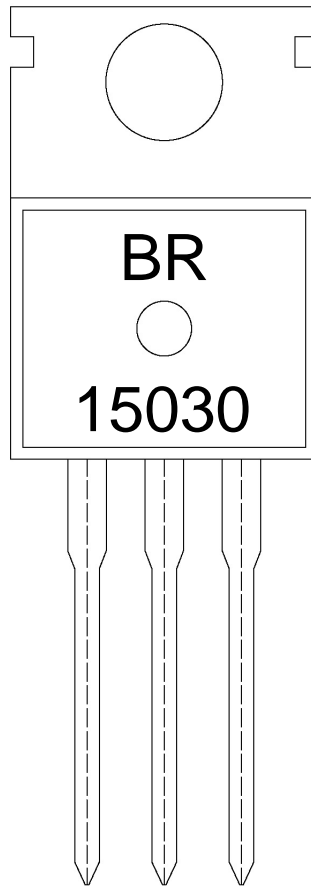
单位: mm

T0-220



Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters	
	Min	Max		Min	Max
A	9.8	10.2	C	1.2	1.4
B	3.56	3.64	B1	6.3	6.7
a	0.7	0.9	a1	0.96	1.06
C1	0.4	0.6	l	1.22	1.32
k	0.4	0.7	b1	1.25	1.71
φ	0.2	0.25			

/ Marking Instructions



BR

15030

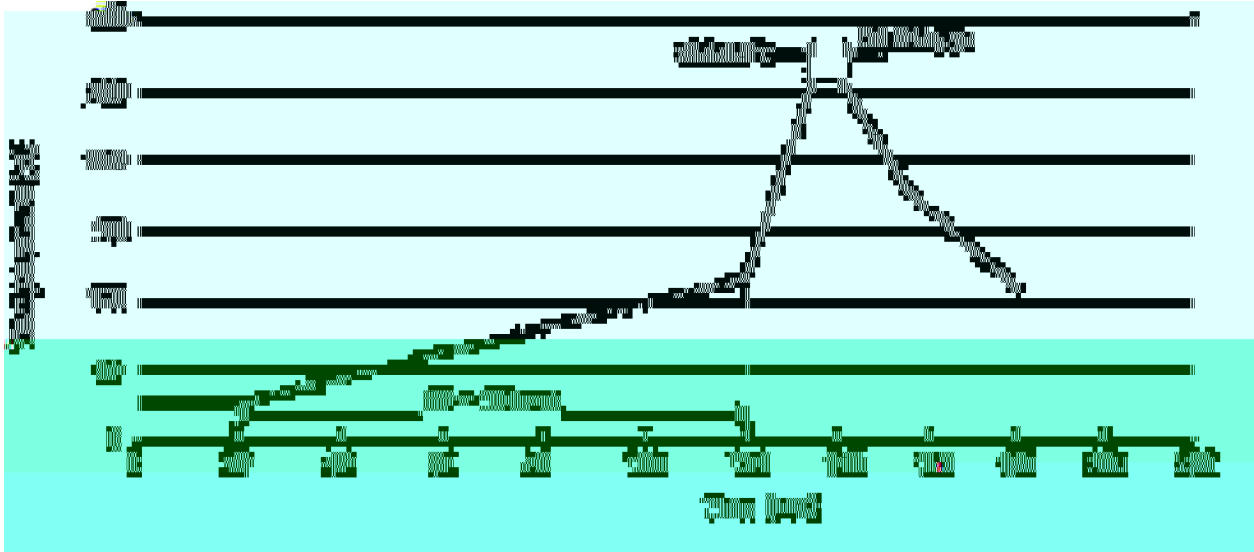
Note:

BR: Company Code

15030: Product Type.

****: 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±0.5 | sec; | 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	Units				Dimension (unit mm ³)		

/ TUBE

Package Type	Units				Dimension (unit mm ³)		

/ Notices