/ Descriptions

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

/ Features

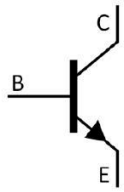
- MJE15031

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

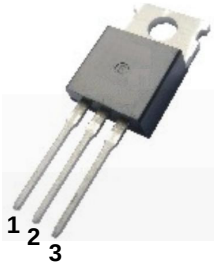
/ Applications

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)

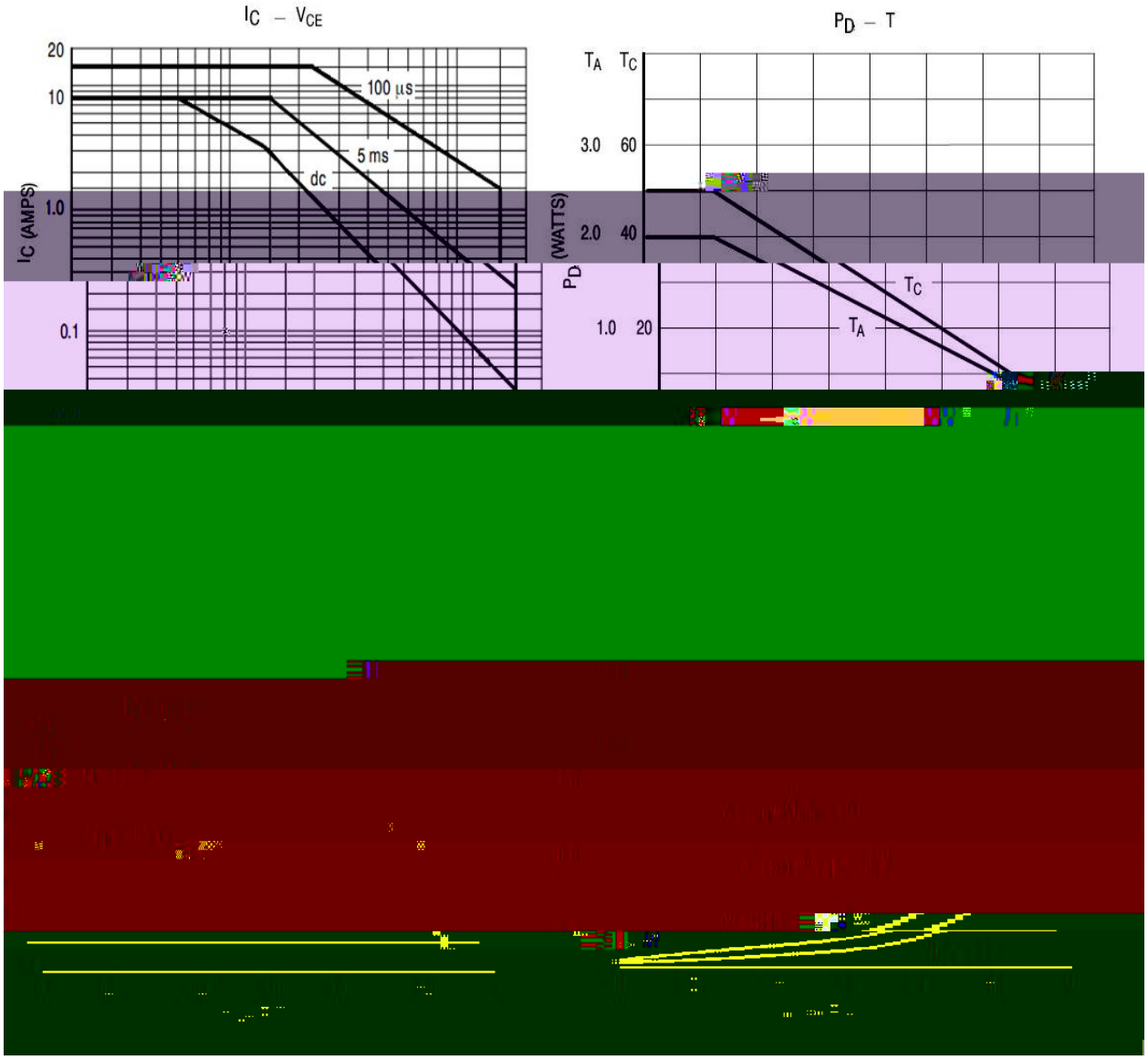
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	150	V
Collector to Emitter Voltage	V_{CEO}	150	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	8.0	A
Base Current- Continuous	I_B	2.0	A
Total Power Dissipation	P_D	2.0	W
	P_D(Tc=25)	50	W
Junction Temperature	T_j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

/ Electrical Characteristics(Ta=25)

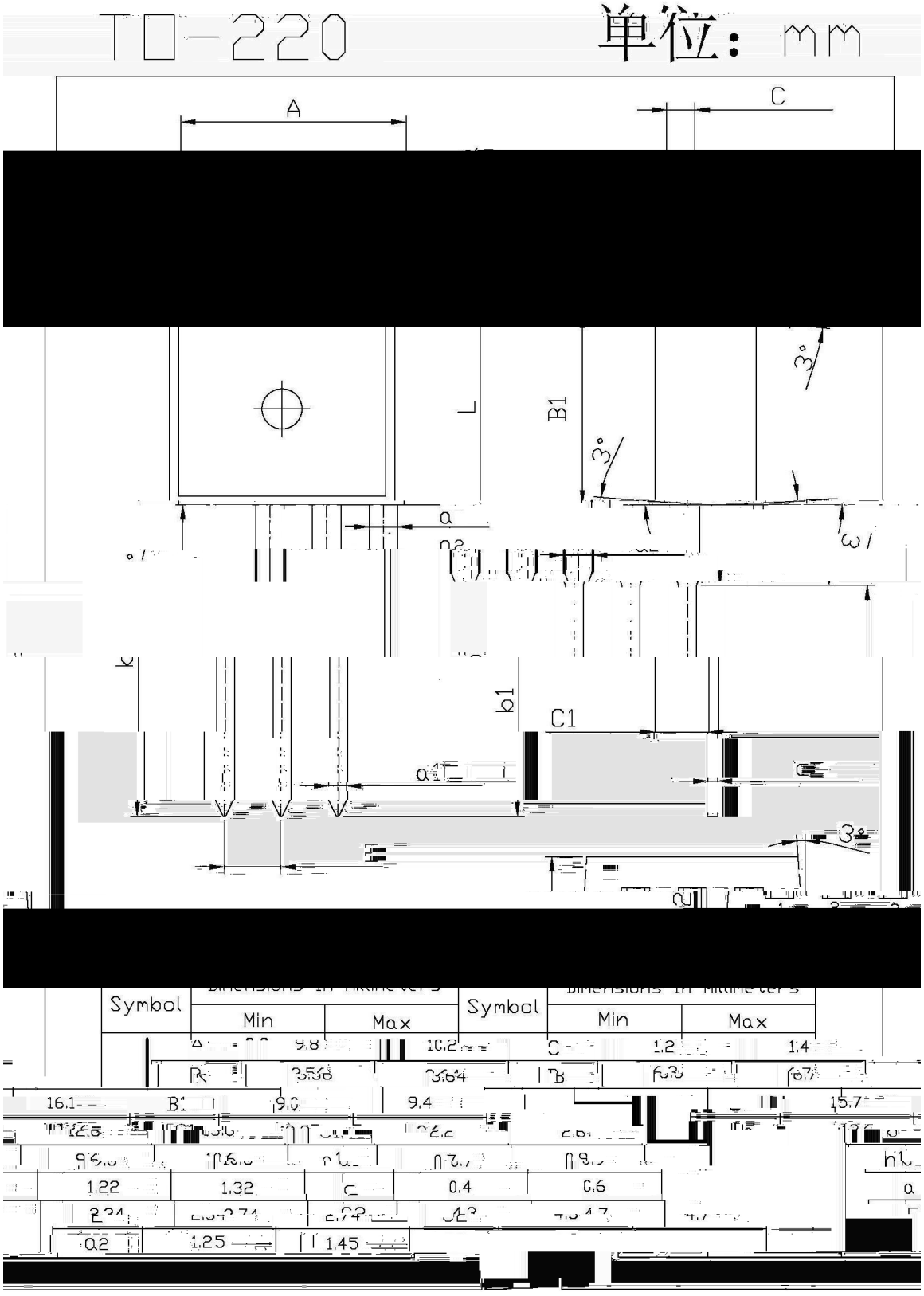
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage*	*V_{CEO}	I_C=10mA I_B=0	150			V
Collector Cut-Off Current	I_{CEO}	V_{CE}=150V I_B=0			0.1	mA
Collector Cut-Off Current	I_{CBO}	V_{CB}=150V I_E=0			10	μA
Emitter Cut-Off Current	I_{EBO}	V_{BE}=5V I_C=0			10	μA
DC 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

* ≤300μs ≤2% *Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.

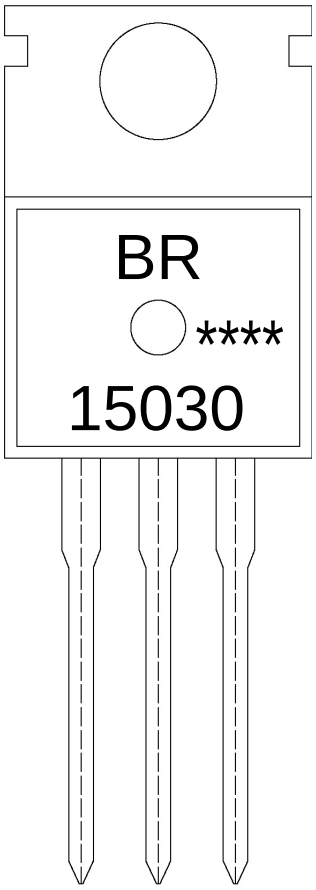
/ Electrical Characteristic Curve



/ Package Dimensions



/ 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±0.5sec;	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	Units					Dimension		(unit mm^3)
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension		(unit mm^3)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices