

/ Descriptions

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

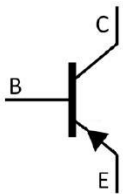
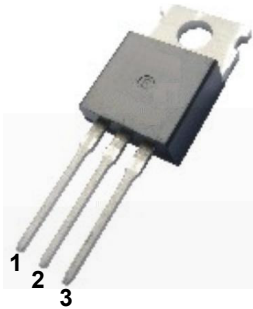
/ Features

- MJE15038

High DC current gain, High V_{CEO} , High f_T , Complementary pair with MJE15036.

/ 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)

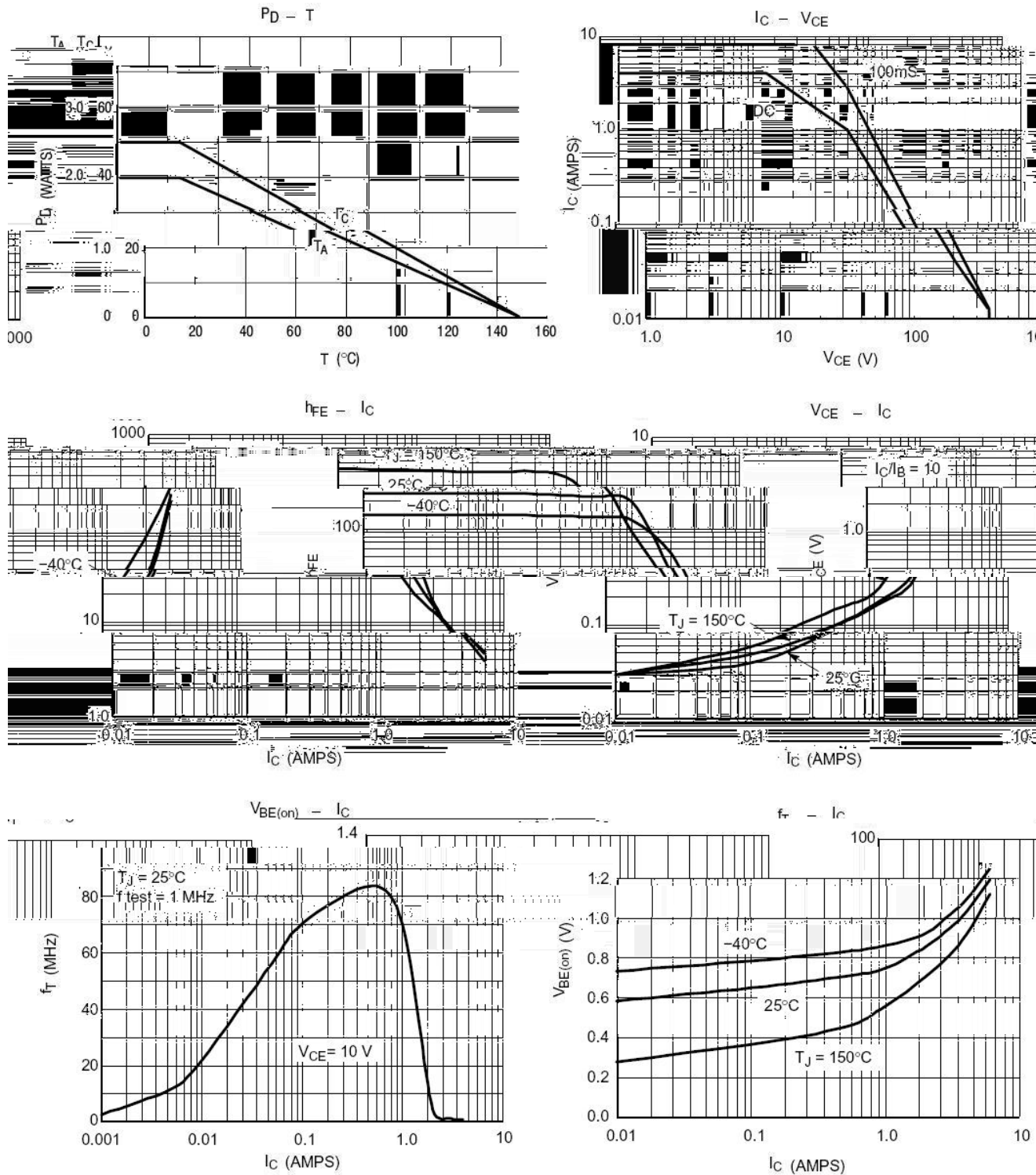
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-350	V
Collector to Emitter Voltage	V_{CEO}	-350	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-8	A
Base Current - Continuous	I_B	-2	A
Collector Power Dissipation	P_D	2	W
	$P_D(T_C=25)$	80	W
Junction Temperature	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	$*V_{CEO}$	$I_C=-10mA \quad I_B=0$	-350			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-350V \quad I_E=0$			-30	μA
Emitter Cut-Off Current	I_{EBO}	$V_{BE}=-5V \quad I_C=0$			-30	μA
DC Current Gain	$*h_{FE(1)}$	$V_{CE}=-5V \quad I_C=-0.5A$	100		500	
	$*h_{FE(2)}$	$V_{CE}=-5V \quad I_C=-0.1A$	100			
	$*h_{FE(3)}$	$V_{CE}=-5V \quad I_C=-1A$	5			
	$h_{FE(4)}$	$V_{CE}=-5V \quad I_C=-2A$	10			
Collector to Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=-1A \quad I_B=0.1A$			-0.5	V
Base to Emitter On Voltage	$*V_{BE(on)}$	$V_{CE}=5V \quad I_C=-1A$			-1	V
Transition Frequency	f_T	$V_{CE}=-10V \quad I_C=-500mA$ $f=1MHz$	30			MHz

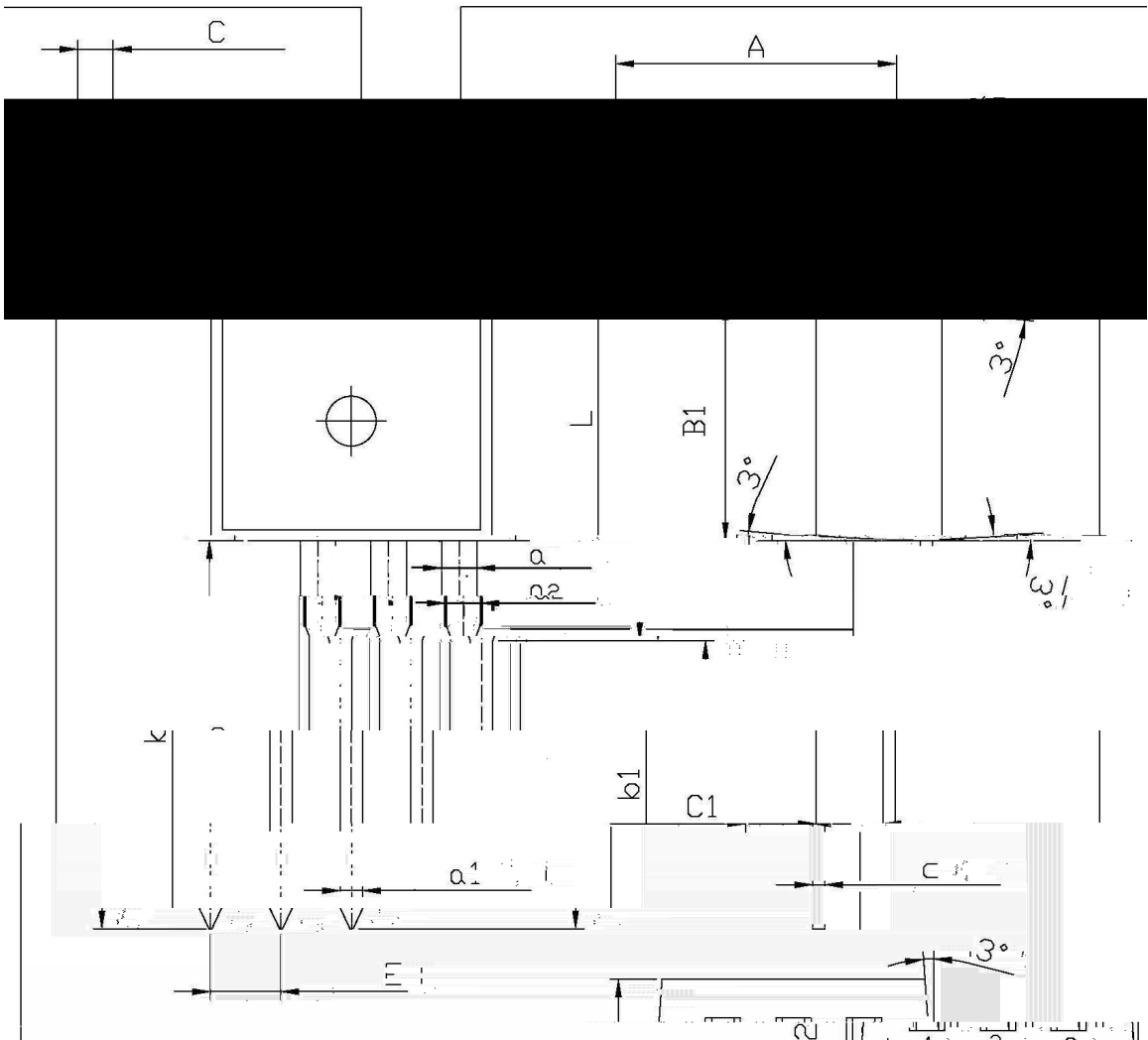
* $\leq 300\mu s$ $\leq 2\%$ *Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

/ **Electrical Characteristic Curve**



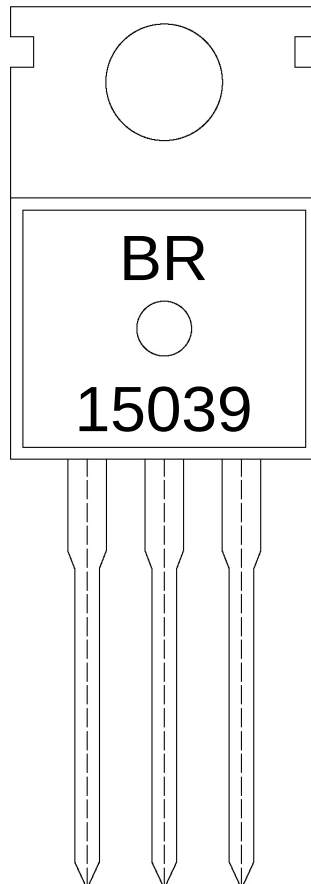
/ Package Dimensions

单位: mm TO-220



Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
B	3.56	3.64	B1	6.3	6.7
B1.1	9.0	9.4	a	0.7	0.9
a1	1.32	1.45	a2	0.4	0.6
b1	1.25	1.45	C1	1.25	1.45

/ Marking Instructions



BR

15039

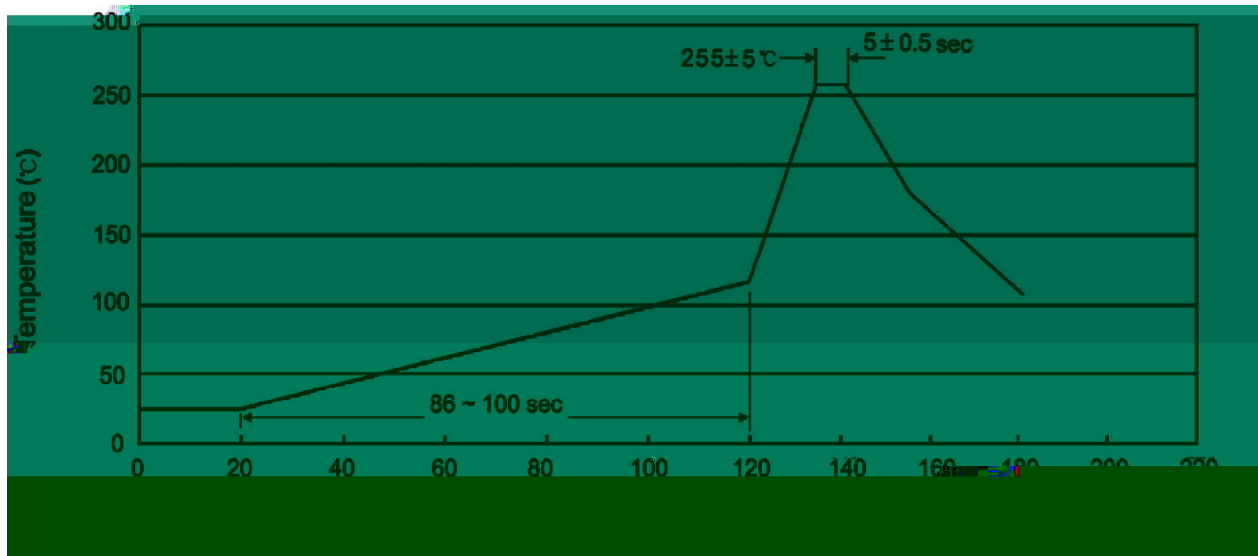
Note:

BR: Company Code

15039: 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)		

/ TUBE

Package Type	Units					Dimension (unit mm ³)		

/ **Notices**