



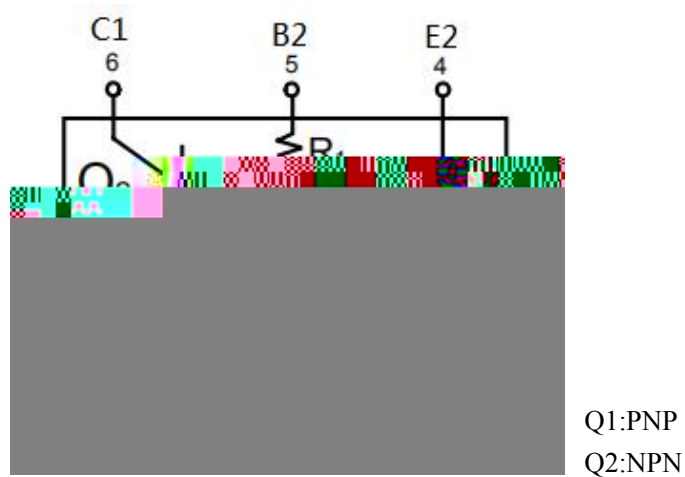
| A | 2020.02.18 |     | SOT-363                  |    |  |
|---|------------|-----|--------------------------|----|--|
| A | 2021-7-7   | ALL | BR3RC5311WS<br>MUN5311WS | BR |  |
| B | 2021-11-25 | 6   |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |
|   |            |     |                          |    |  |



silicon NPN and PNP transistor in a SOT-363 Plastic Package

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process. Halogen free product.

Switching applications, interface circuit and driver circuit applications.



|         |      |
|---------|------|
| Marking | H311 |
|---------|------|



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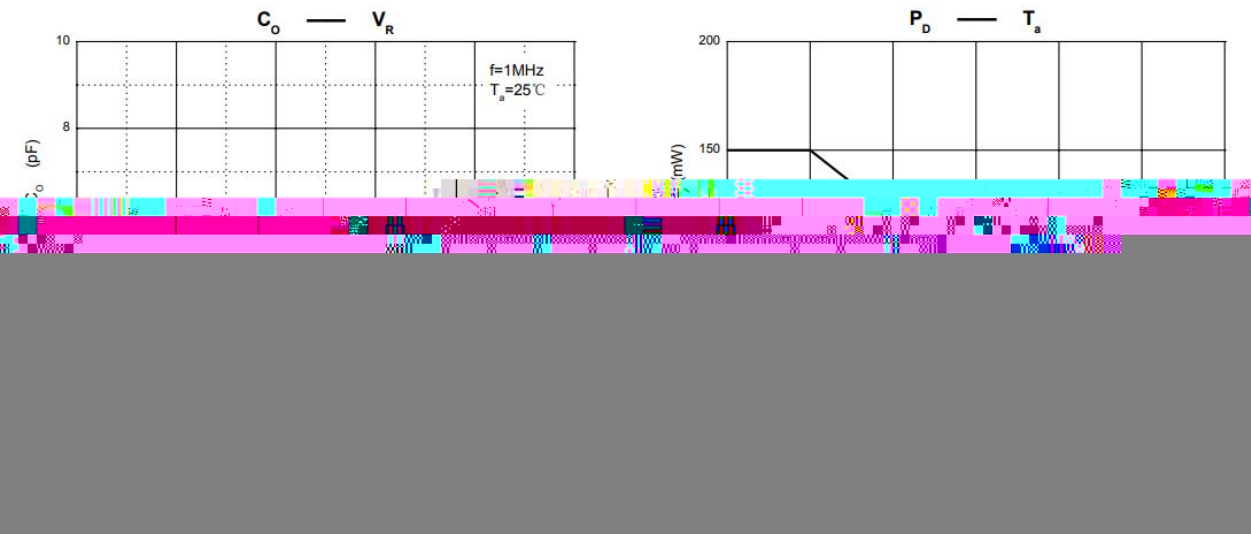
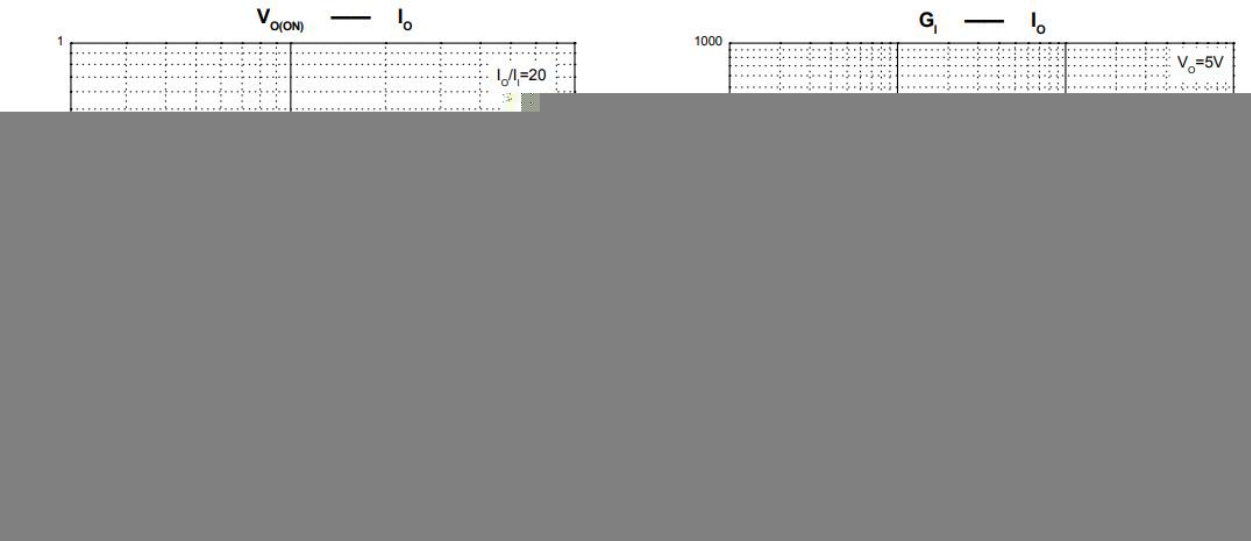
| Parameter                 | Symbol    | Rating  | Unit |
|---------------------------|-----------|---------|------|
| Output Voltage            | $V_{CC}$  | 50      | V    |
| Input Voltage             | $V_{IN}$  | 40      | V    |
|                           |           | -10     | V    |
| Output Current            | $I_{CM}$  | 100     | mA   |
|                           | $I_O$     | 50      | mA   |
| Collector Dissipation     | $P_C$     | 200     | mW   |
| Junction Temperature      | $T_j$     | 150     | °C   |
| Storage Temperature Range | $T_{stg}$ | -55~150 | °C   |

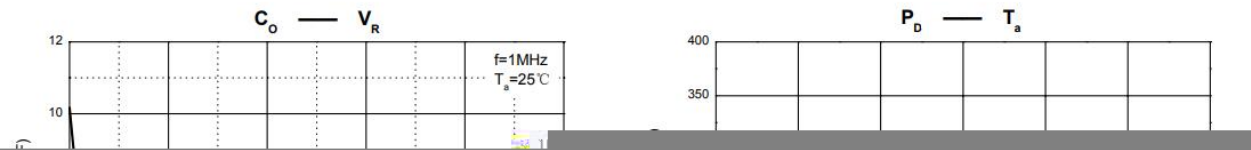
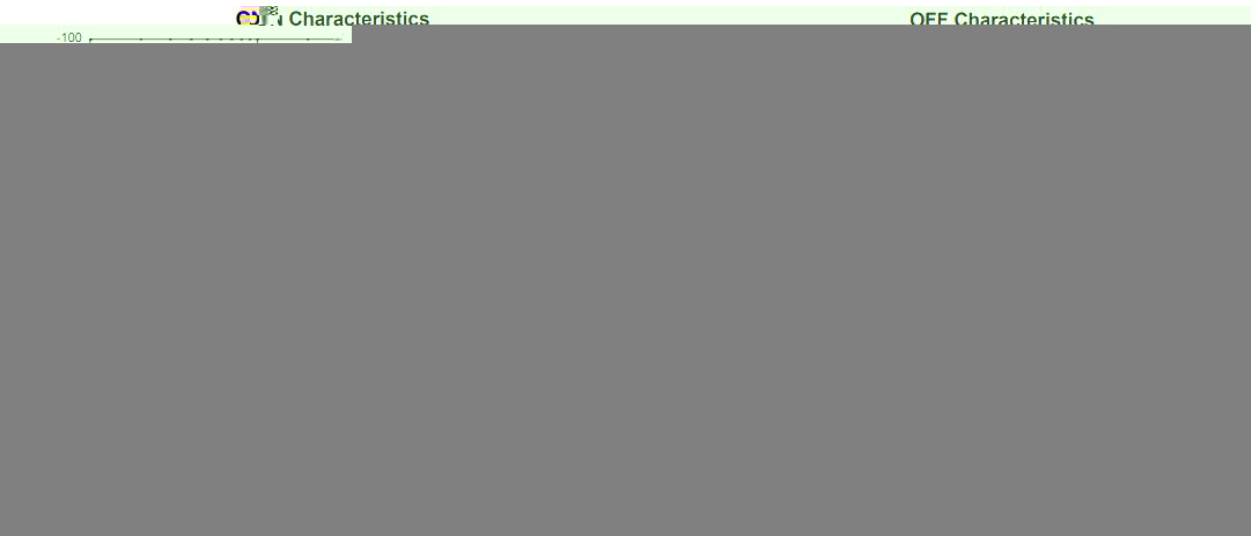
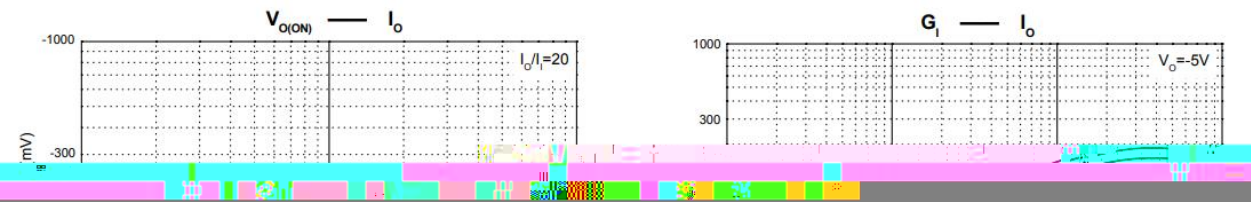
| Parameter              | Symbol       | Test Conditions                        | Min | Typ | Max  | Unit       |
|------------------------|--------------|----------------------------------------|-----|-----|------|------------|
| Input Voltage          | $V_{I(off)}$ | $V_{CC}=5.0V$ $I_O=100\mu A$           |     |     | 0.5  | V          |
| Input Voltage          | $V_{I(on)}$  | $V_O=0.3V$ $I_O=10mA$                  | 3   |     |      | V          |
| Output Voltage         | $V_{O(on)}$  | $I_O=10mA$ $I_I=0.5mA$                 |     |     | 0.3  | V          |
| Input Current          | $I_I$        | $V_I=5.0V$                             |     |     | 0.88 | mA         |
| Output Cut-off Current | $I_{O(off)}$ | $V_{CC}=50V$ $V_I=0V$                  |     |     | 0.5  | $\mu A$    |
| DC Current Gain        | $G_I$        | $V_O=5.0V$ $I_O=5.0mA$                 | 30  |     |      |            |
| Transition Frequency   | $f_T$        | $V_{CE}=10V$ $I_C=5.0mA$<br>$f=100MHz$ |     | 250 |      | MHz        |
| Resistance1            | $R_1$        |                                        | 7   | 10  | 13   | K $\Omega$ |
| Resistance Ratio       | $R_2/R_1$    |                                        | 0.8 | 1   | 1.2  |            |

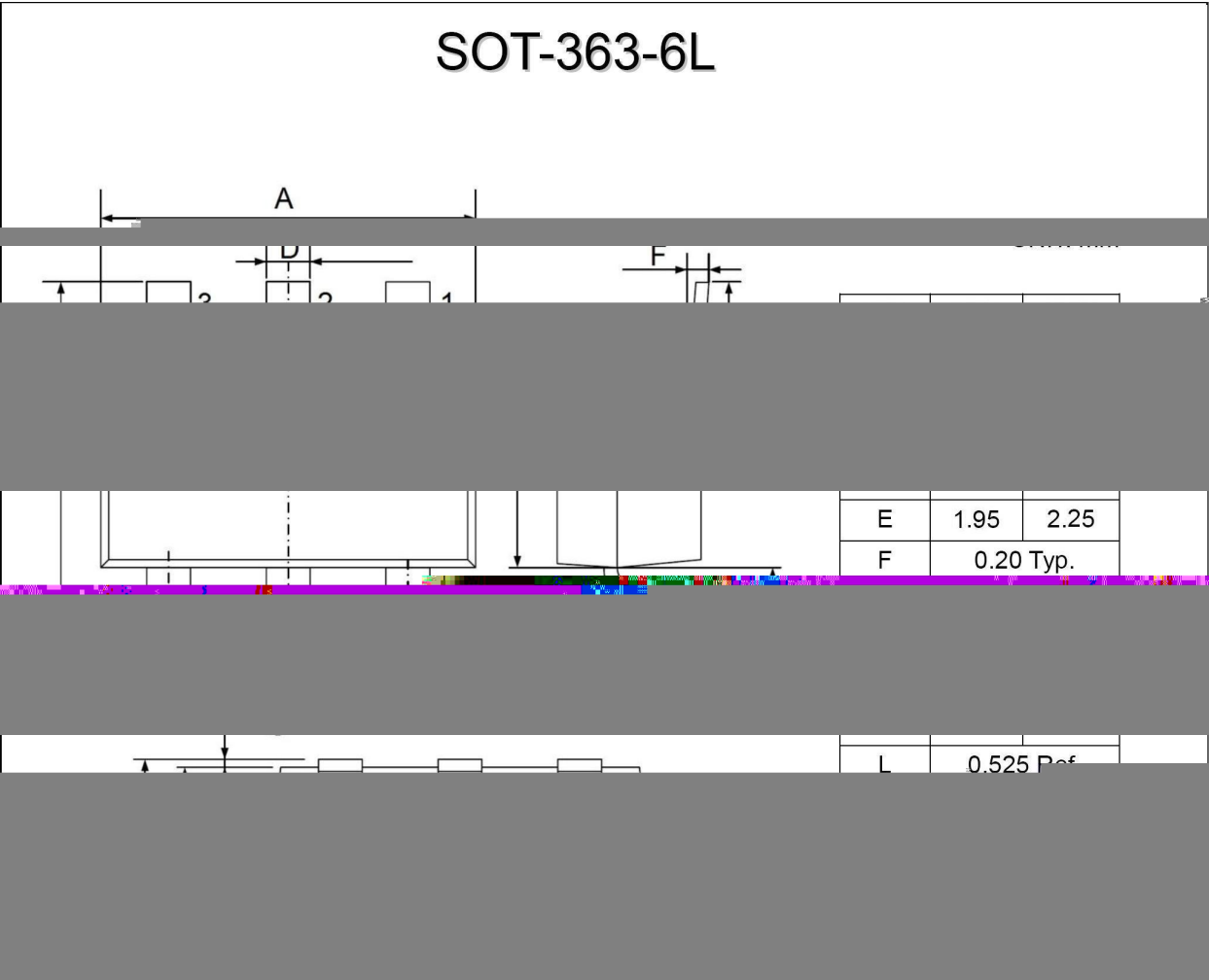


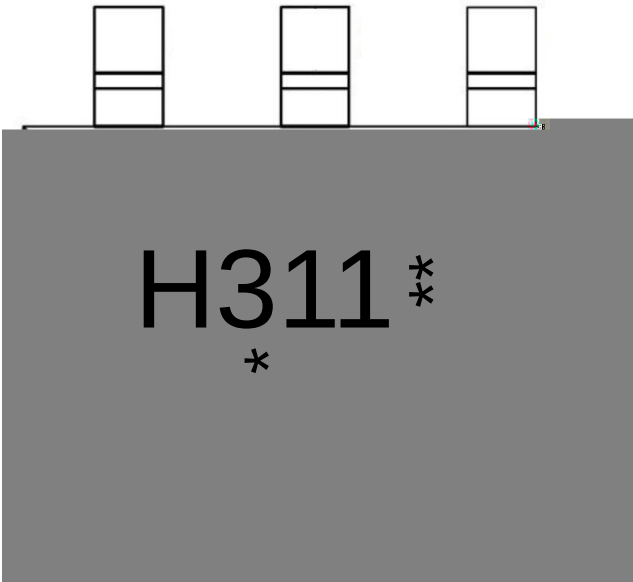
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| Parameter                 | Symbol    | Rating  | Unit |
|---------------------------|-----------|---------|------|
| Output Voltage            | $V_{CC}$  | -50     | V    |
| Input Voltage             | $V_{IN}$  | -40     | V    |
|                           |           | 10      | V    |
| Output Current            | $I_C$     | -100    | mA   |
|                           | $I_Q$     | -50     | mA   |
| Power Dissipation         | $P_C$     | 200     | mW   |
| Junction Temperature      | $T_j$     | 150     | °C   |
| Storage Temperature Range | $T_{stg}$ | -55~150 | °C   |





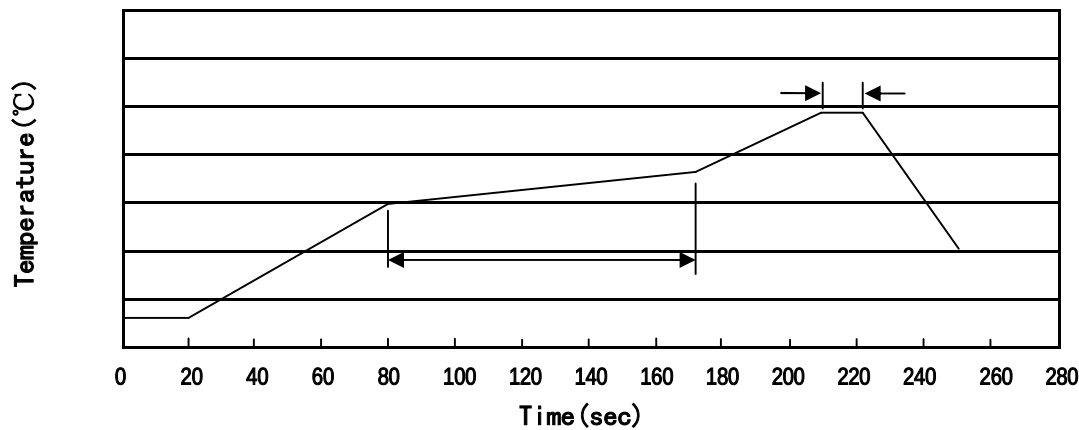




- “ 1 ”
- H311
- \*\*\*:
- Note:
- “1” Pin
- H311 Product Type Code
- \*\*\*: Lot No. Code, code change with Lot No.



Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |     |     |    |         |                                         |
|---|-----|-----|----|---------|-----------------------------------------|
| 1 | 150 | 180 | 60 | 90sec;  | 1.Preheating:150~180 , Time:60~90sec.   |
| 2 | 245 | 5   | 5  | 0.5sec; | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 |     | 2   | 10 | /sec.   | 3. Cooling Speed: 2~10 /sec.            |

260 5                      10 1 sec.                      Temp.:260±5℃                      Time:10±1 sec

/ REEL

| Package Type | Units              |                         |                        |                              |                        | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------|-------------|-------------|
|              | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                              | Inner Box   | Outer Box   |
| SOT-363      | 3,000              | 10                      | 30,000                 | 6                            | 180000                 | 7" ×8                             | 180×120×180 | 390×385×205 |