



/ Revised record

A	2020.02.18		SOT-363		
A	2021-7-7	ALL	BR3RC5311WS MUN5311WS	BR	
B	2021-11-25	6			

/ Descriptions

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

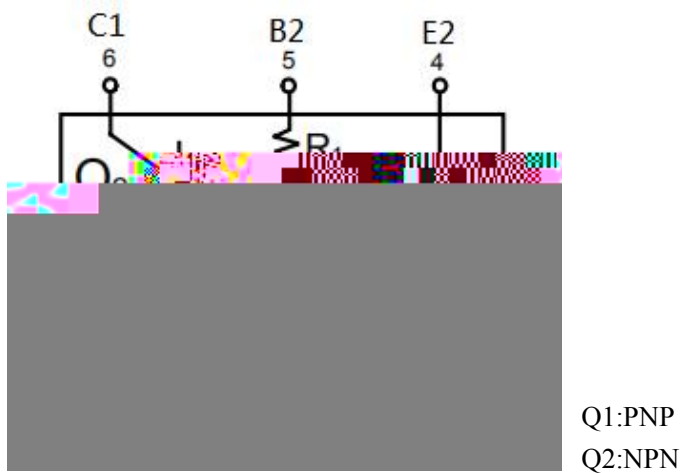
/ Features

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

/ Applications

Switching applications, interface circuit and driver circuit applications.

/ Equivalent Circuit



/ h_{FE} Classifications & Marking

Marking	H311
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/ Absolute Maximum Ratings(NPN,Ta=25)

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

/ Electrical Characteristics((NPN,Ta=25)

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	μA
DC Current Gain	G_I	$V_O=5.0V$ $I_O=5.0mA$	30			
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=5.0mA$ $f=100MHz$		250		MHz
Resistance1	R_1		7	10	13	K Ω
Resistance Ratio	R_2/R_1		0.8	1	1.2	



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_O	-50	mA
Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

Parameter

Symbol

Test Conditions

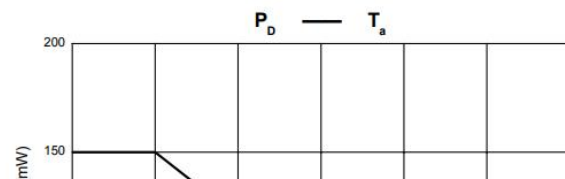
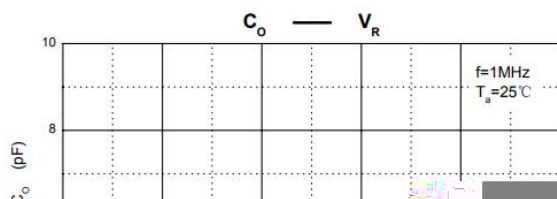
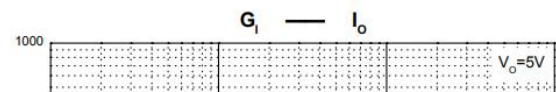
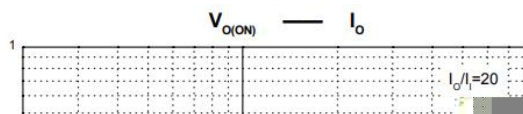
Min

Typ

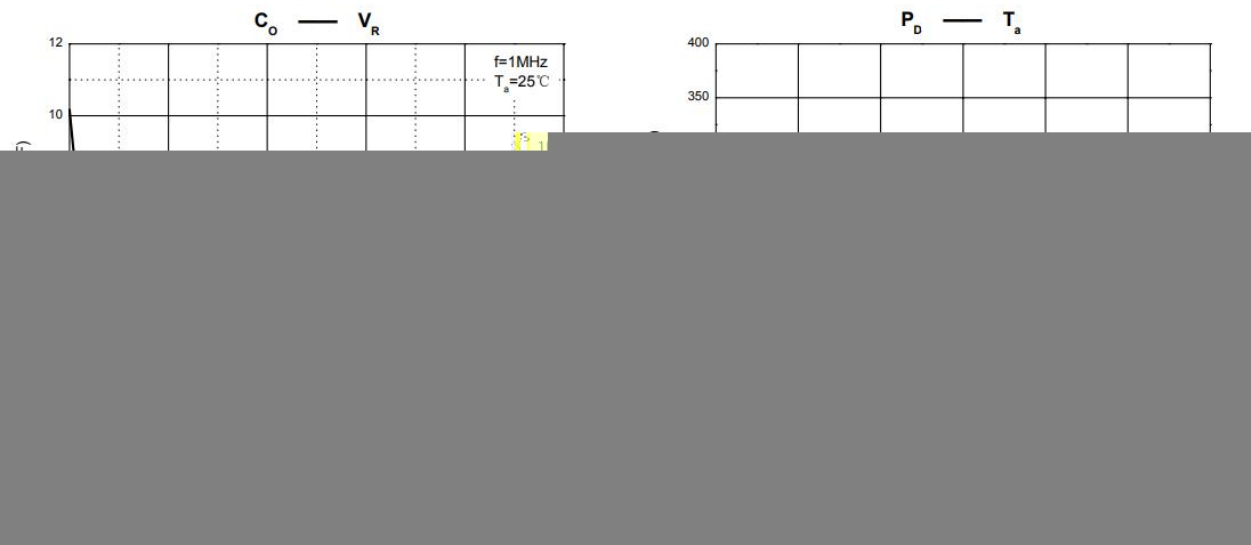
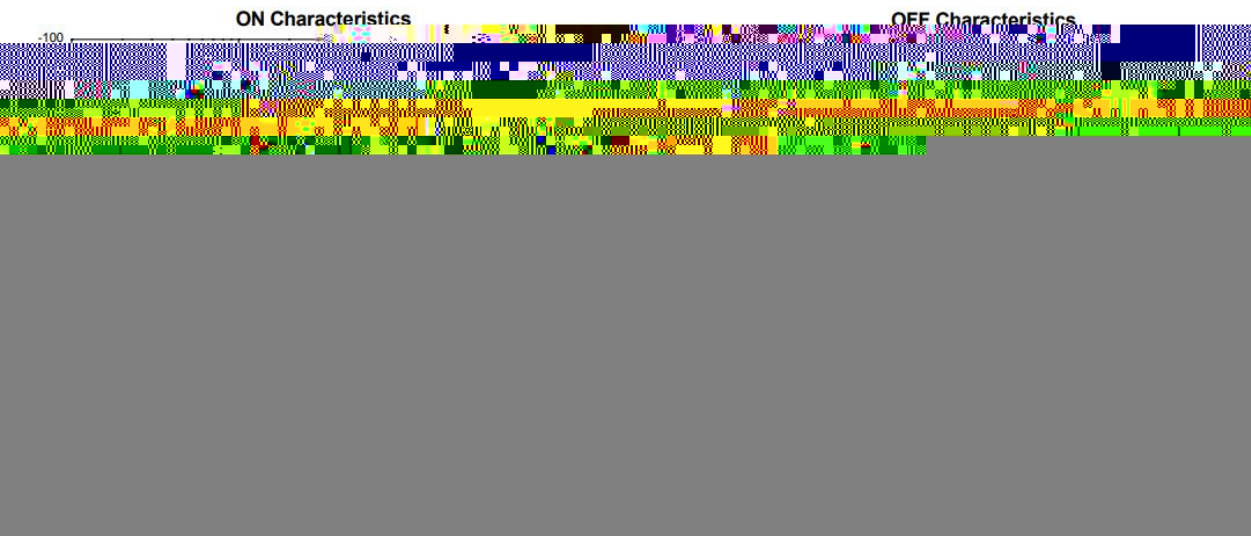
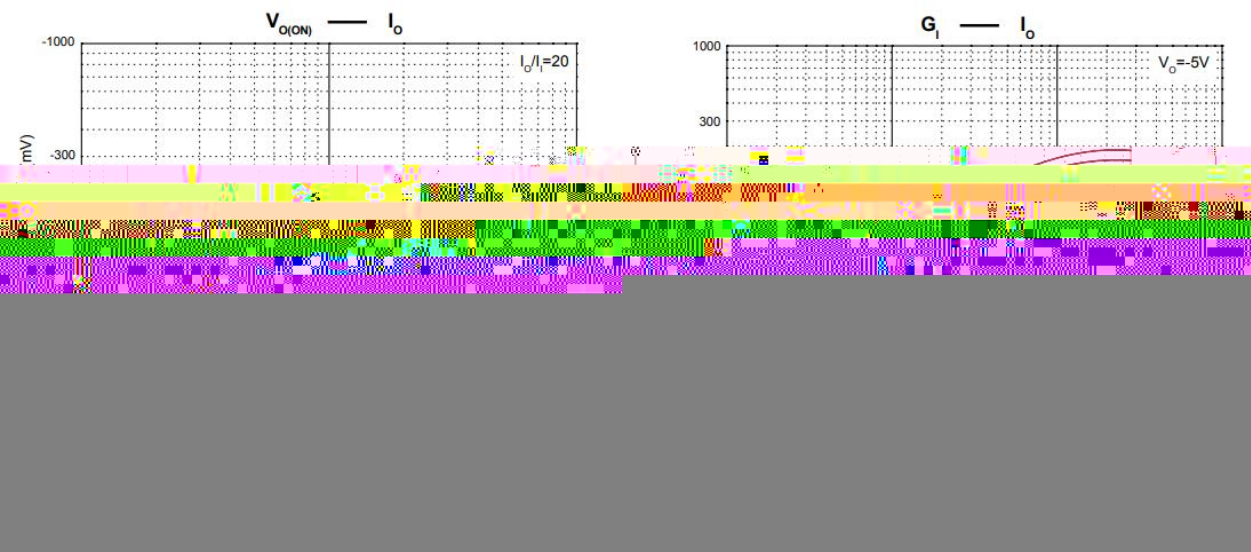
Mv



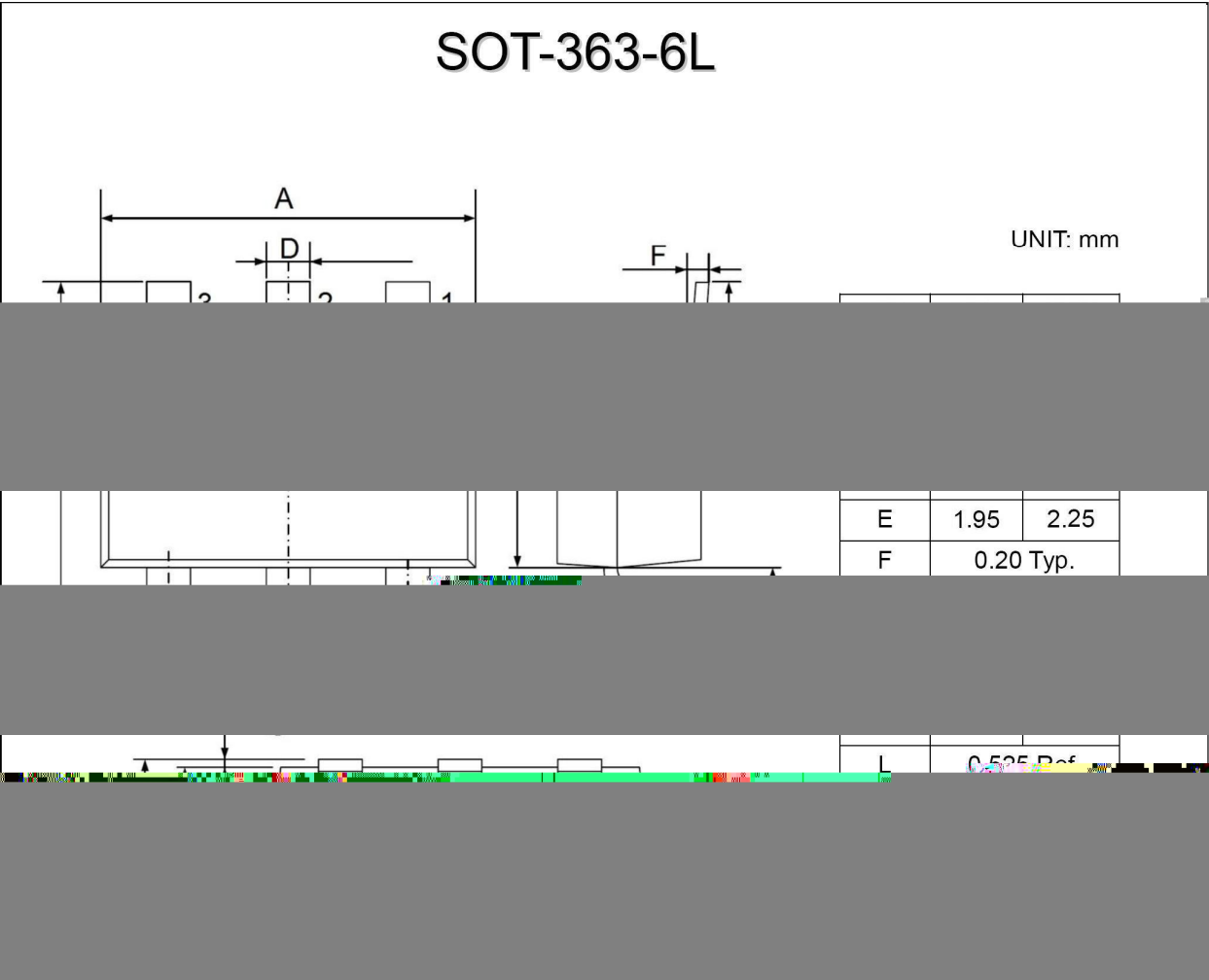
/ Electrical Characteristic Curve(NPN)



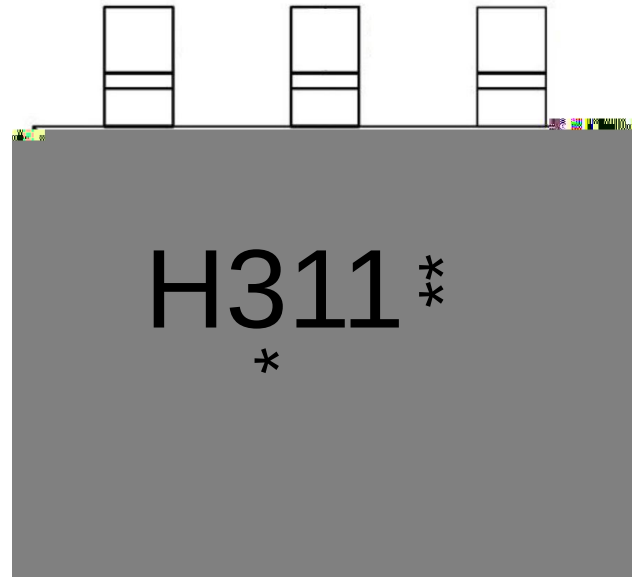
/ Electrical Characteristic Curve(PNP)



/ Package Dimensions



/ Marking Instructions



" 1 "

H311

***:

Note:



"1" Pin

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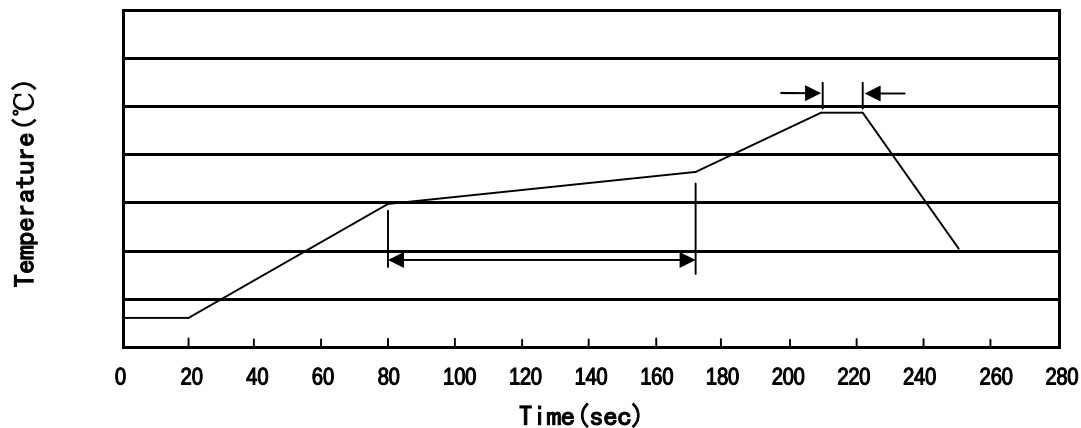
Product Type Code

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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 °C , Time:60~90sec. |
| 2 | 245 | 5 | 5 | 0.5sec; | 2.Peak Temp.:245 ± 5 °C , Duration:5 ± 0.5sec. |
| 3 | | | 2 | 10 °C/sec. | 3. Cooling Speed: 2~10 °C/sec. |

/ Resistance to Soldering Heat Test Conditions

260 ± 5 °C 10 ± 1 sec. Temp.:260±5°C Time:10±1 sec

/ Packaging SPEC.

/ REEL

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

/ Notices