

Descriptions

Double silicon NPN transistor in a SOT-363 Plastic Package.

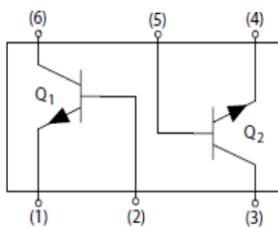
Features

High voltage, complementary pair with MMBT5401DW.

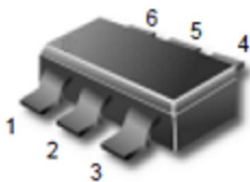
Applications

General purpose high voltage amplifier.

Equivalent Circuit



Pinning



PIN 1、 4 : Emitter

PIN 2、 5 : Base

PIN 3、 6 : Collector

h_{FE} Classifications & Marking

See Marking Instructions.

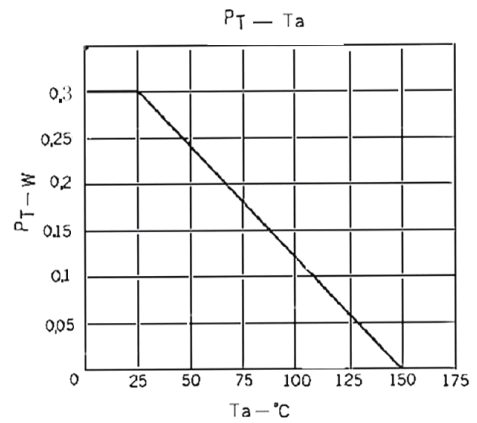
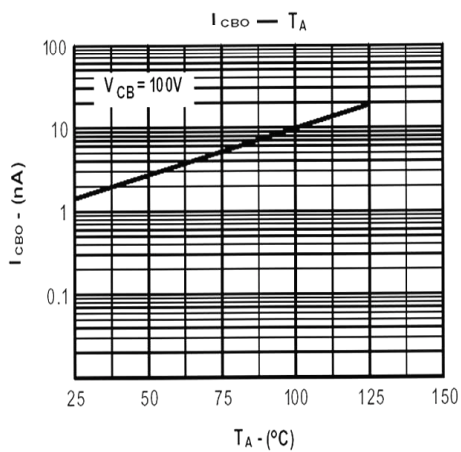
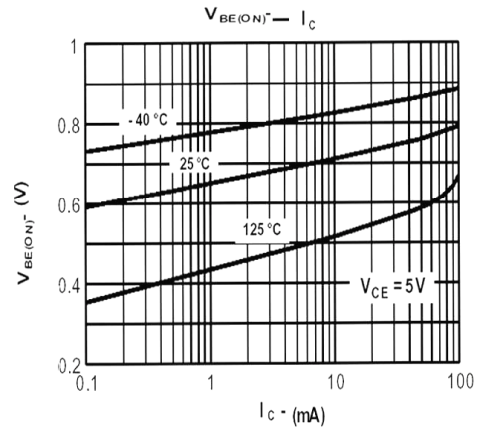
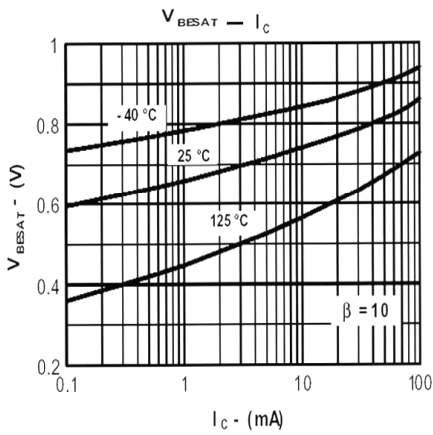
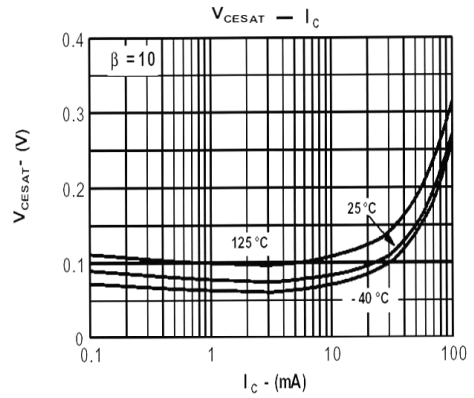
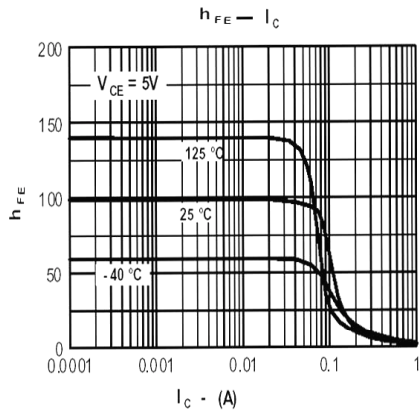
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Base Current	I_B	300	mA
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

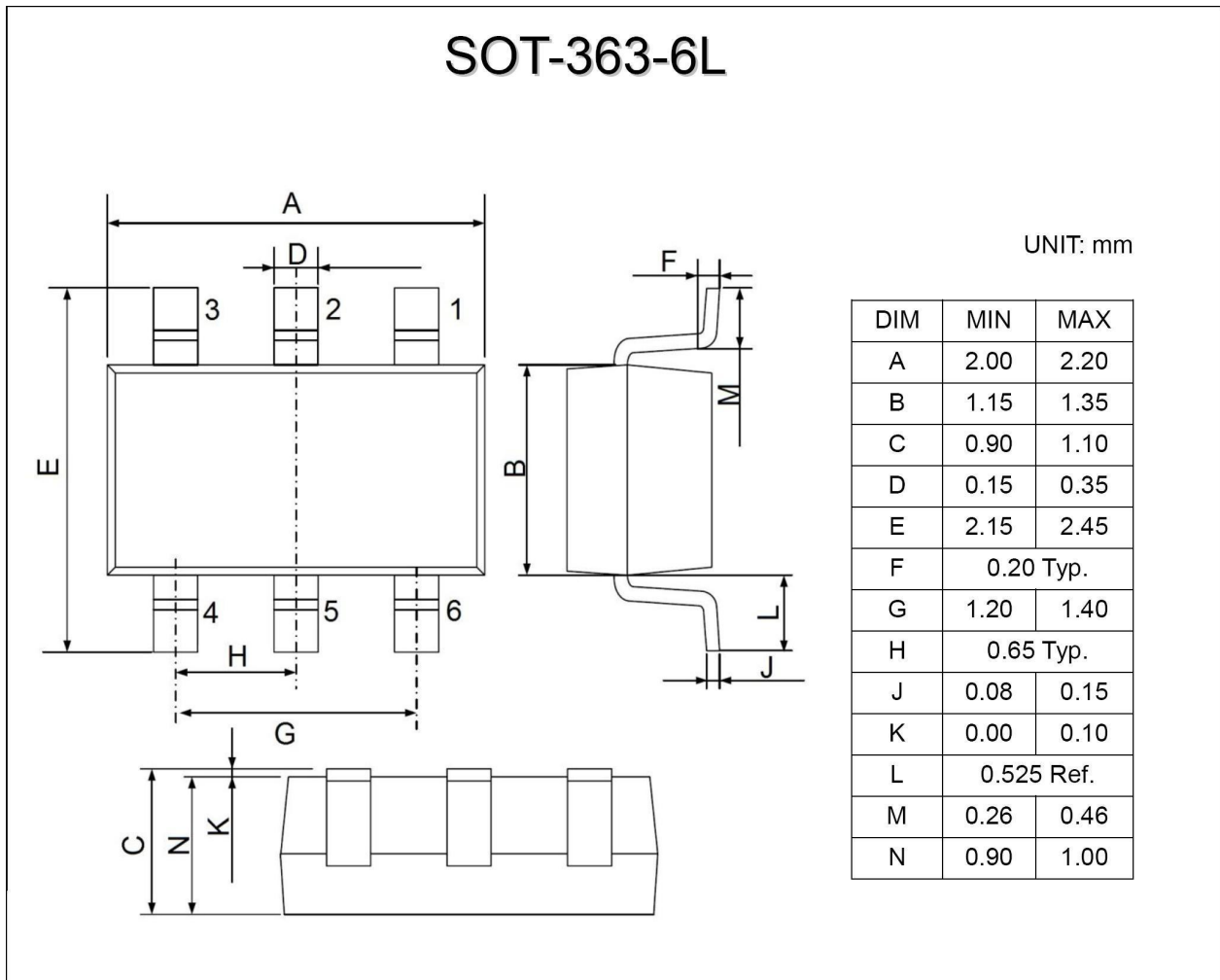
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=180V$ $I_E=0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=6.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=10mA$			300	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=50mA$		160		
	$h_{FE(3)}$	$V_{CE}=5.0V$ $I_C=1.0mA$		190		
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=10mA$ $I_B=1.0mA$		0.06	0.15	V
	$V_{CE(sat)(2)}$	$I_C=50mA$ $I_B=5.0mA$		0.09	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=10mA$ $I_B=1.0mA$		0.7	1.0	V
	$V_{BE(sat)(2)}$	$I_C=50mA$ $I_B=5.0mA$		0.8	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=10mA$		0.68	0.75	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=10mA$		110		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		2.2	5.0	pF
Turn-on Time	t_{on}	$I_C=100mA$ $I_{B1}=-I_{B2}=10mA$		0.3		μs
Turn-off Time	t_{off}			0.4		μs
Storage Time	t_{stg}			0.2		μs

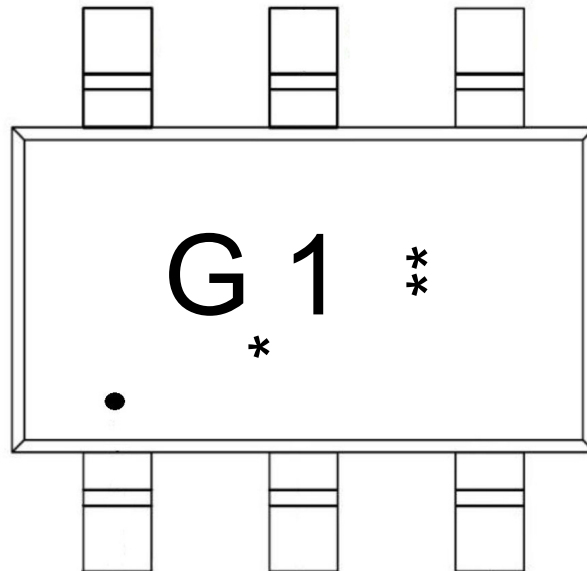
Electrical Characteristic Curve



Package Dimensions



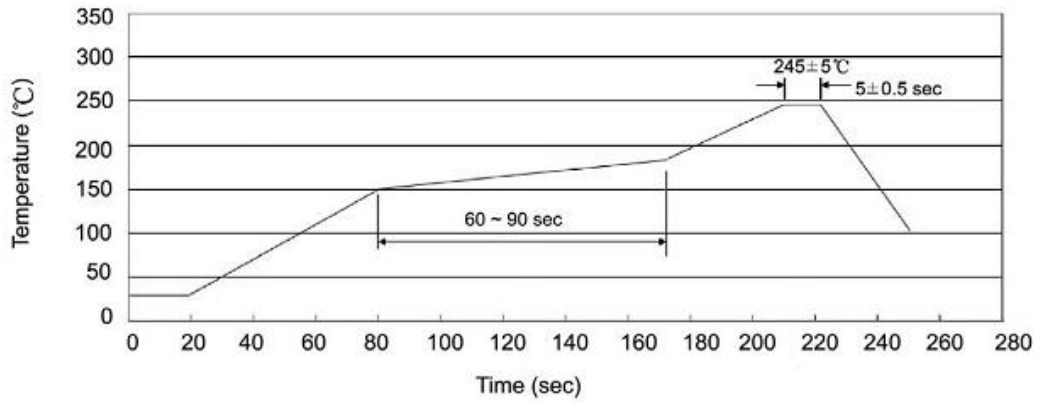
Marking Instructions



Note:

- : "1" Pin
- G1 : Product Type Code
- ***: Lot No. Code, code change with Lot No.

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

Resistance to Soldering Heat Test Conditions

Temp.: 260±5°C

Time: 10±1 sec

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