

## Descriptions

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

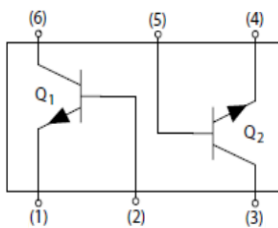
## Features

High voltage, complementary pair with MMBT5401DW.

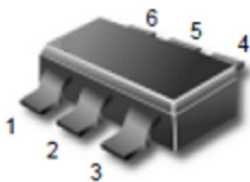
## Applications

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.

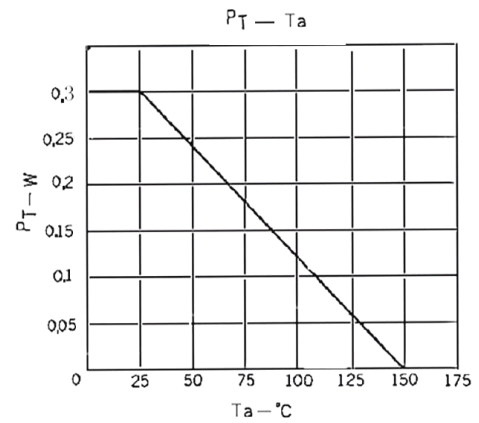
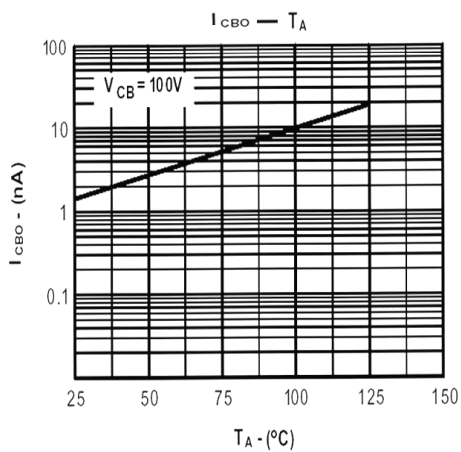
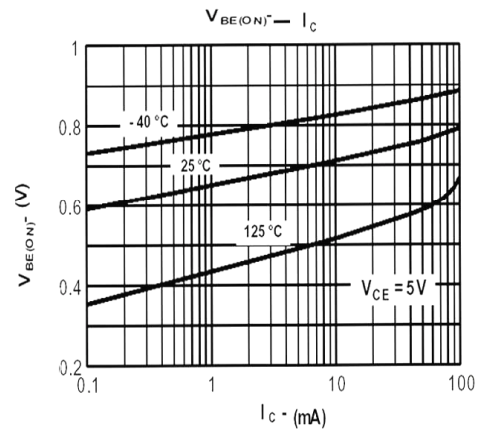
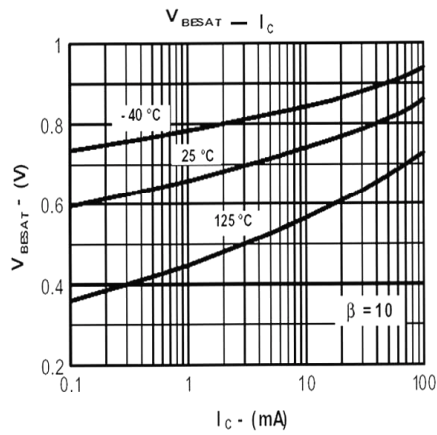
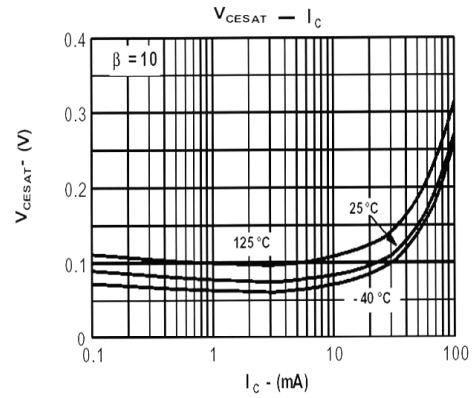
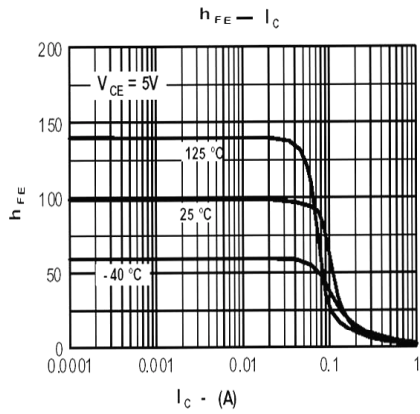
**Absolute Maximum Ratings(Ta=25°C)**

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

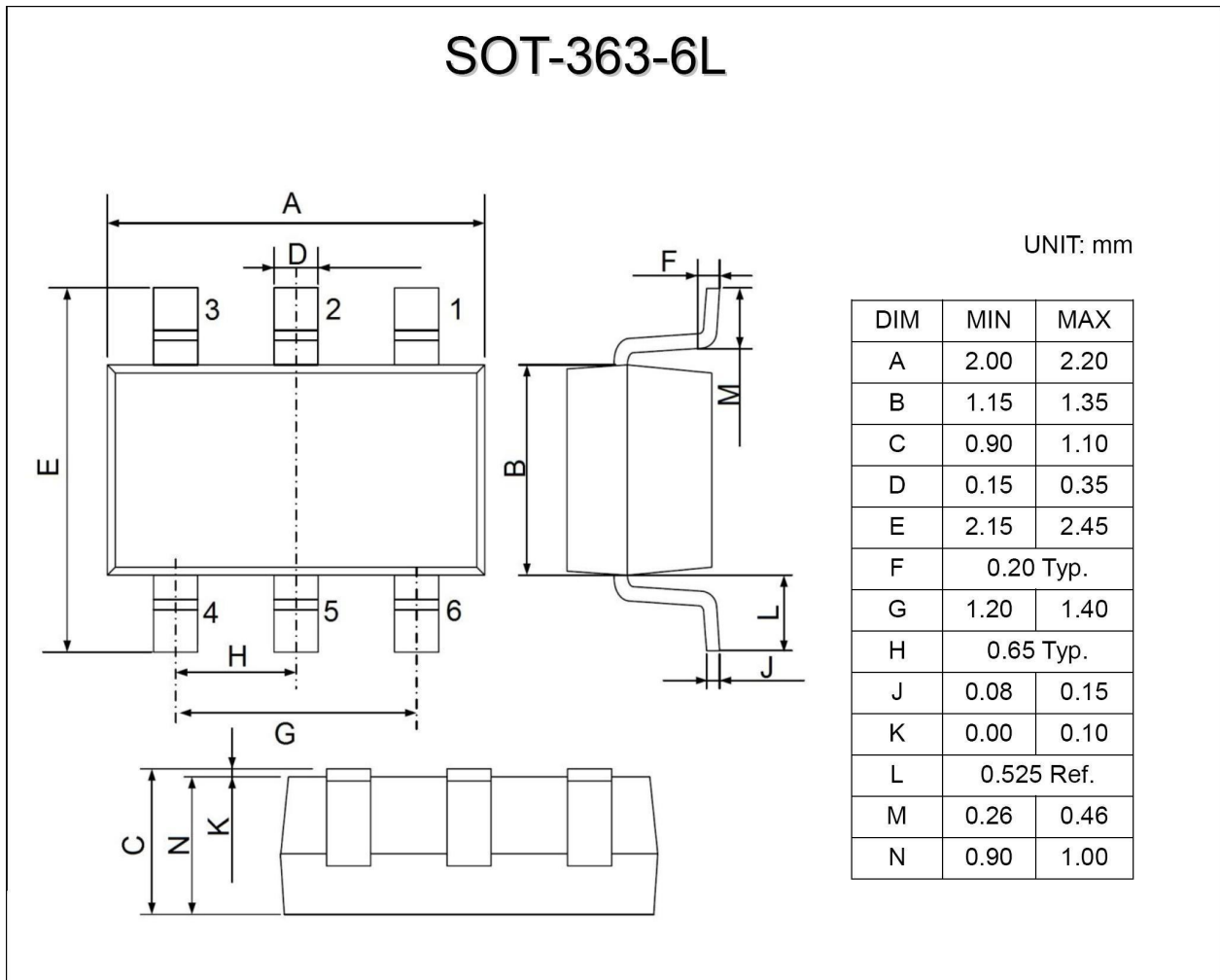
**Electrical Characteristics(Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=180V$ $I_E=0$			0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=6.0V$ $I_C=0$			0.1	$\mu A$
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		$\mu s$
Turn-off Time	$t_{off}$			0.4		$\mu s$
Storage Time	$t_{stg}$			0.2		$\mu s$

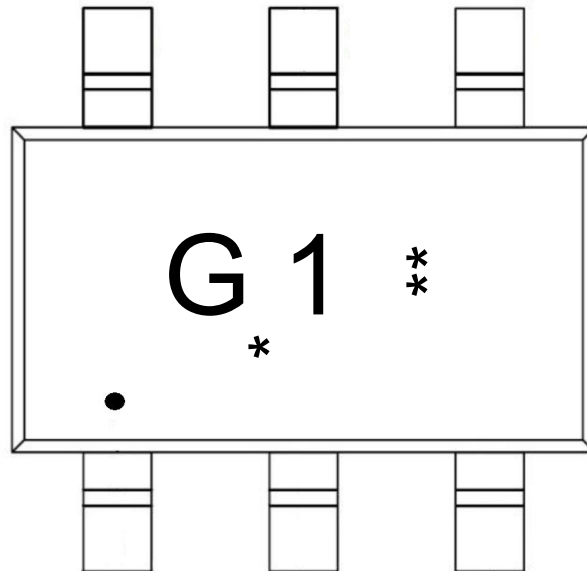
Electrical Characteristic Curve



Package Dimensions



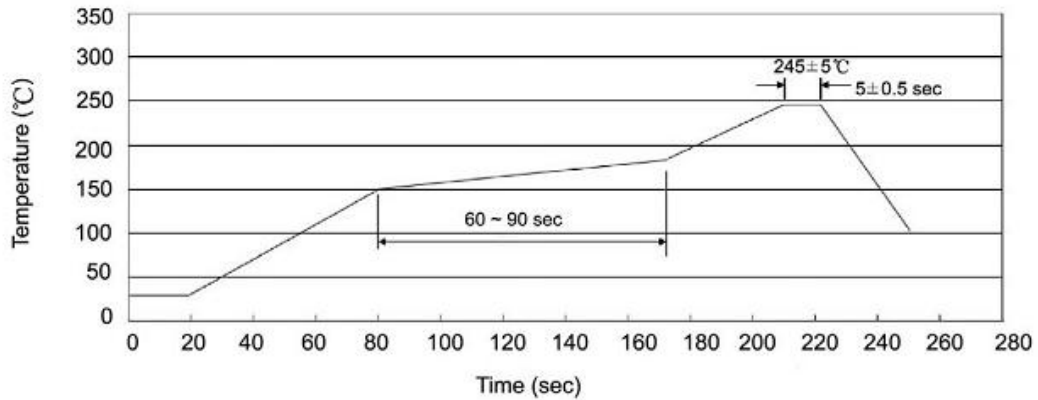
Marking Instructions



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