SOT-363 NPN+PNP

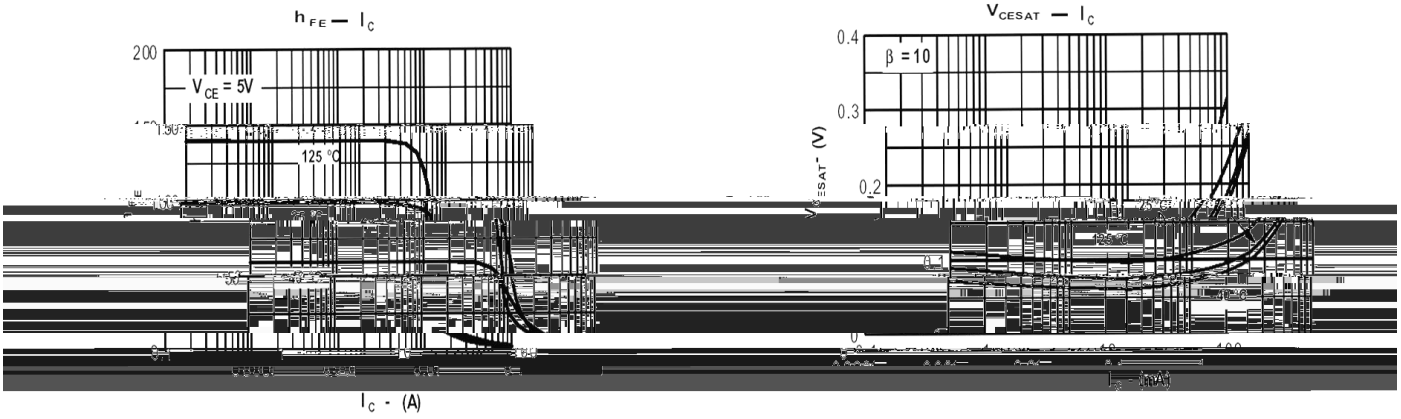
Silicon NPN and PNP transistor in a SOT-363 Plastic Package.

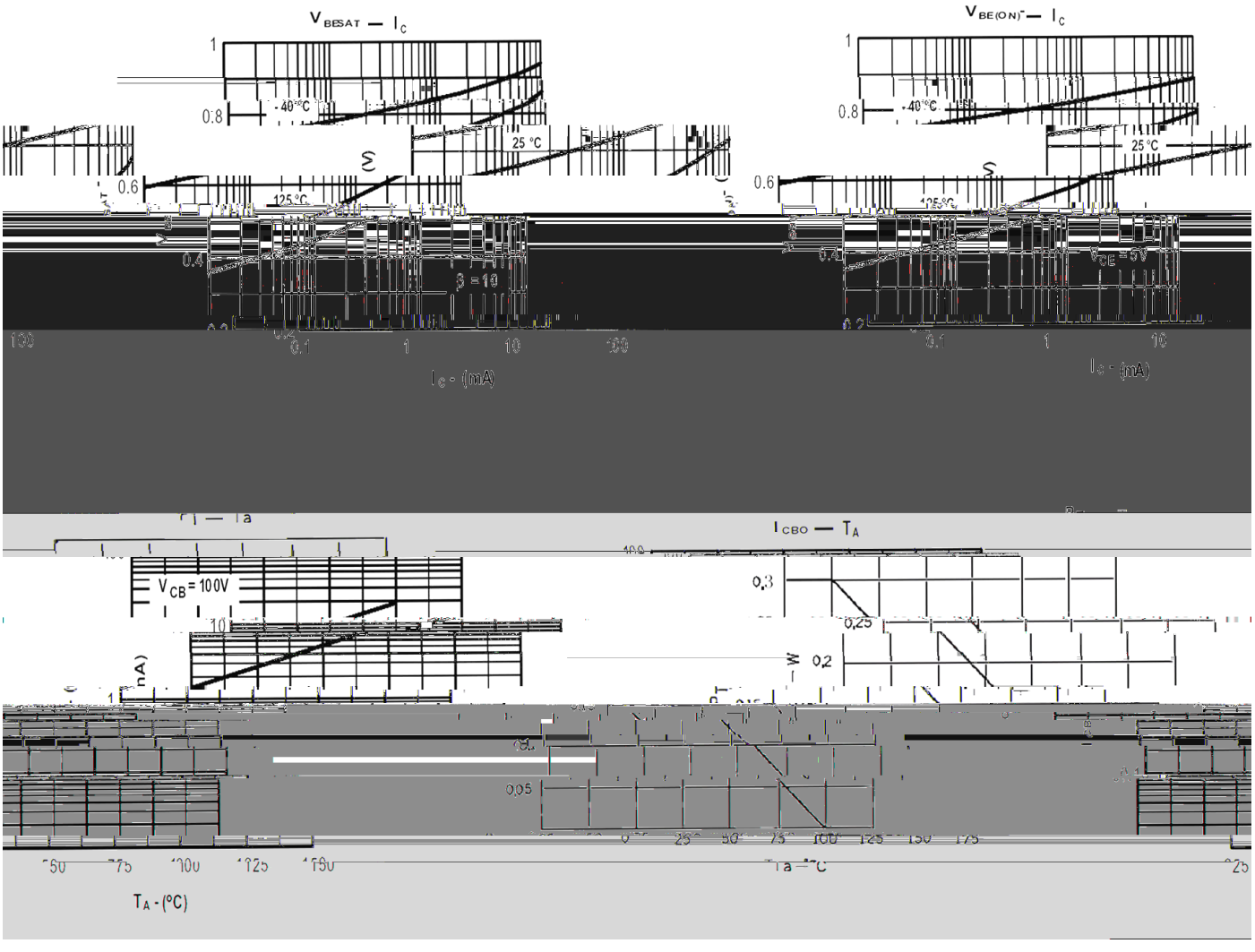
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	200	mA
Power Dissipation	P_D	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	/W
Junction and Storage Temperature	T_j, T_{stg}	-55 +150	

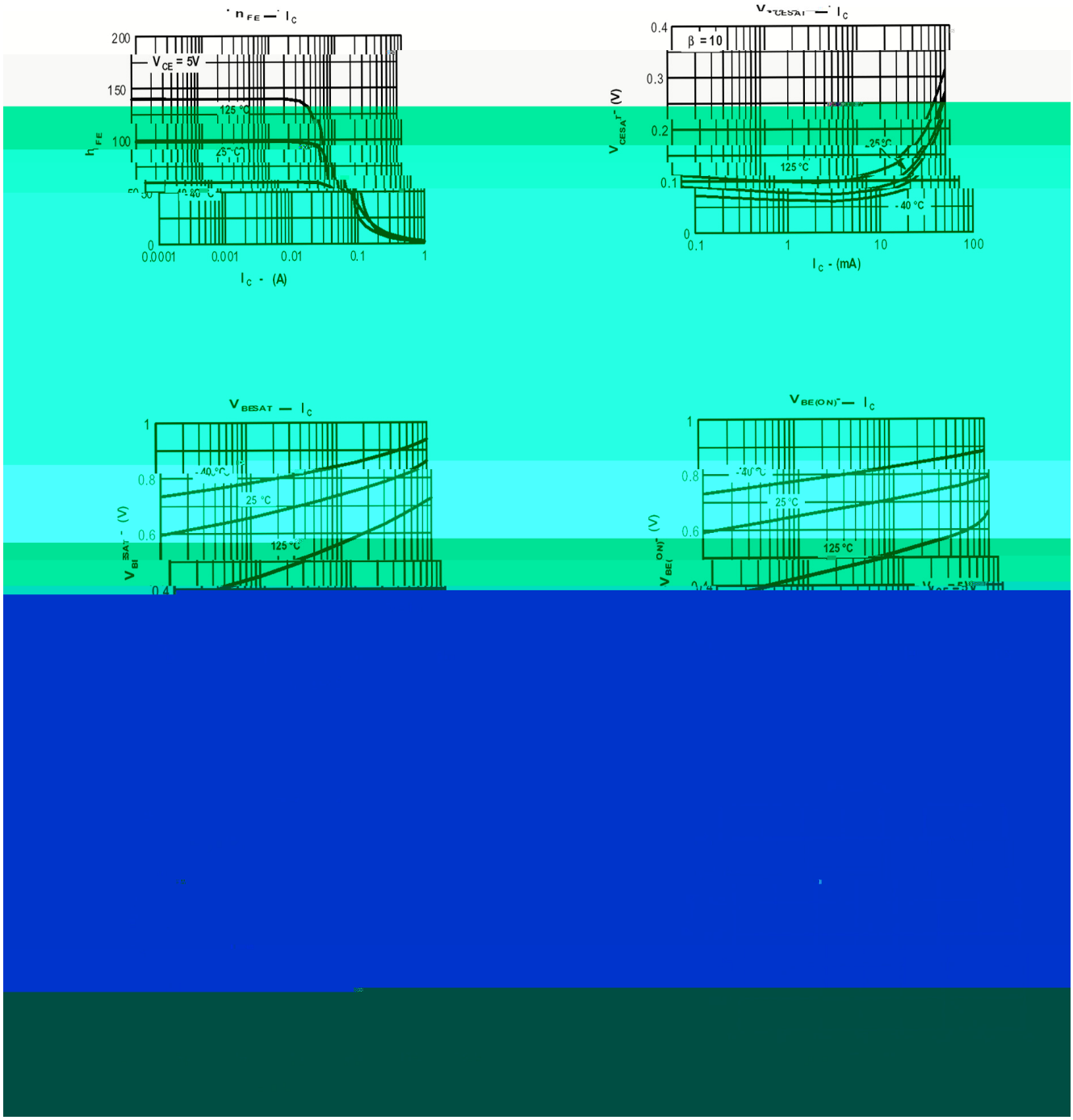
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-180	V

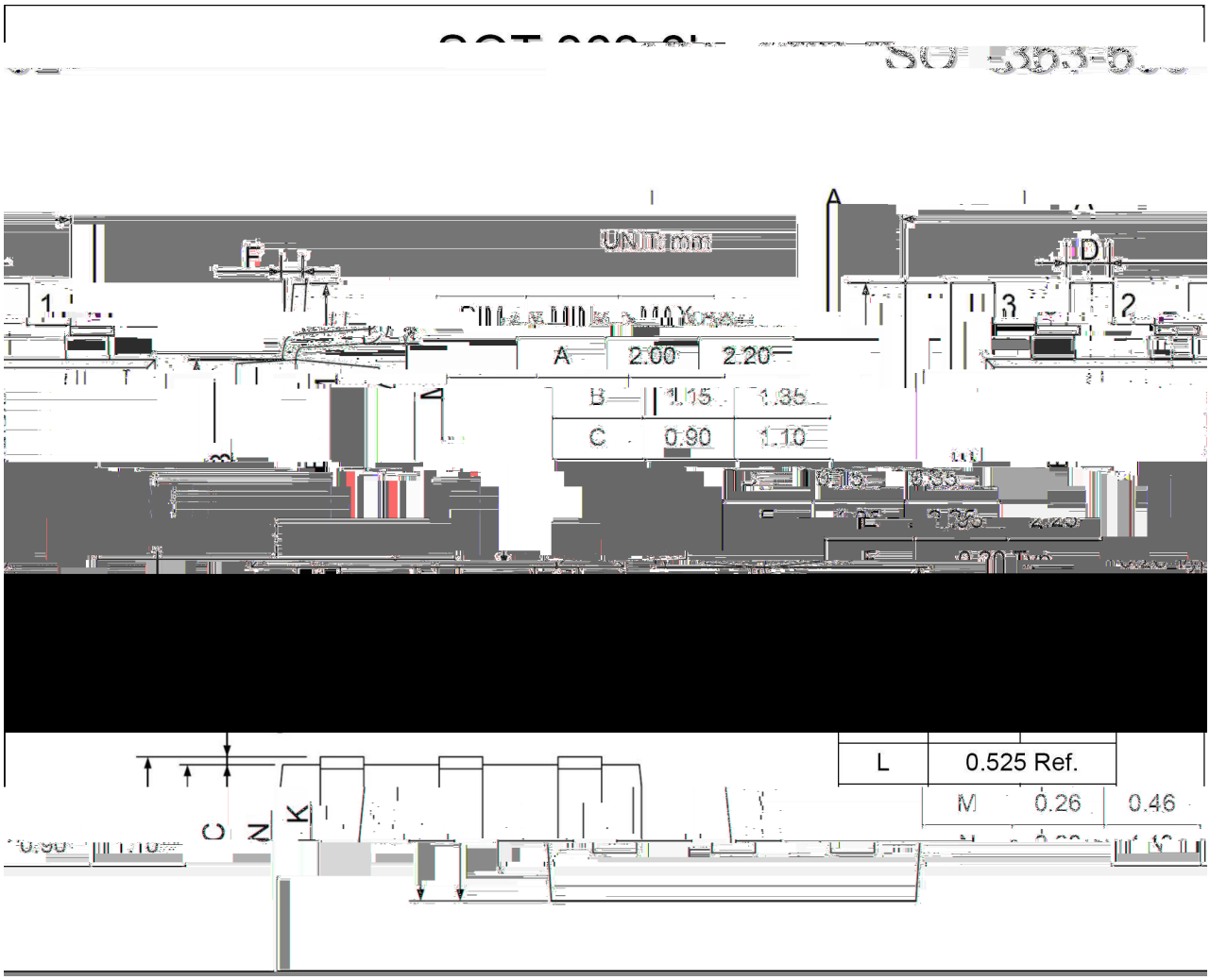
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=180V I_E=0			0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6.0V I_C=0			0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5.0V I_C=10mA	100	200	300	
	$h_{FE(2)}$	V_{CE}=5.0V I_C=50mA	20	160		
	$h_{FE(3)}$	V_{CE}=5.0V I_C=1.0mA	40	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	50	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

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	100	200	300	
	$h_{FE(2)}$	V_{CE}=-5.0V I_C=-50mA	20	70		
	$h_{FE(3)}$	V_{CE}=-5.0V I_C=-1.0mA	40	180		
Collector-Emitter Saturation Voltage	$V_{CE(sat)\ (1)}$	I_C=-10mA I_B=-1.0mA		-0.12	-0.4	V
	$V_{CE(sat)\ (2)}$	I_C=-50mA I_B=-5.0mA		-0.5	-0.8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)\ (1)}$	I_C=-10mA I_B=-1.0mA		-0.75	-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		-0.7	-0.75	V
Transition Frequency	f_T	V_{CE}=-10V I_C=-10mA	50	80		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V I_E=0 f=10MHz		2.5	5.0	pF
Turn-on Time	t_{on}	I_C=-100mA $-I_{B1}=I_{B2}$=-10mA		0.1		μs
Storage Time	t_{off}			0.2		μs
Fall Time	t_{stg}			0.1		μs


h FE — I C
200
V CE = 5V
125 °C
I C - (A)
V CESAT — I C
0.4
β = 10
0.3
0.2
V CESAT - (V)


V BESAT — I C
1
0.8
-40°C
25 °C
0.6
125°C
0.4
β = 10
I C - (mA)
V BE(ON) — I C
1
0.8
-40°C
25 °C
0.6
125°C
V CE = 5V
I C - (mA)
I CBO — T A
V CB = 100V
0.3
0.25
W 0.2
0.05
T A - (°C)


h_{FE} — I_C
V_{CE} = 5V
125 °C
25 °C
-40 °C
I_C - (A)
V_{CESAT} — I_C
β = 10
V_{CESAT} - (V)
125 °C
25 °C
-40 °C
I_C - (mA)
V_{BESAT} — I_C
V_{BESAT} - (V)
-40 °C
25 °C
125 °C
$V_{BE(ON)}$ — I_C
$V_{BE(ON)}$ - (V)
-40 °C
25 °C
125 °C


UNIT:mm
A
B
C
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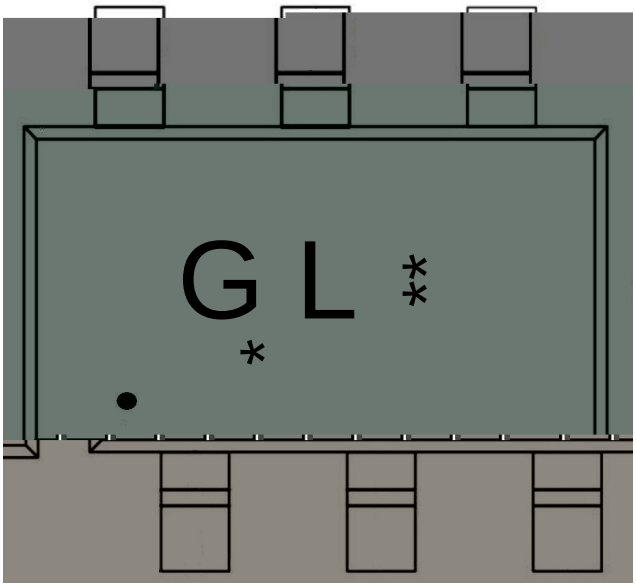
M
0.26
0.46



● “ 1 ”

GL

***:

Note:

● “ 1 ” Pin

GL 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