

MMDT5451
Rev.C Aug.-2023

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

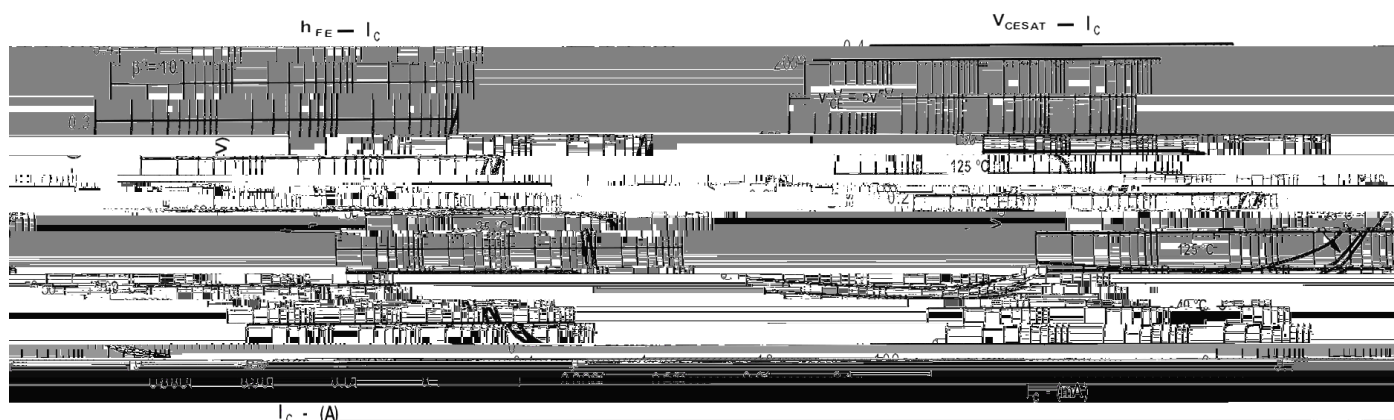
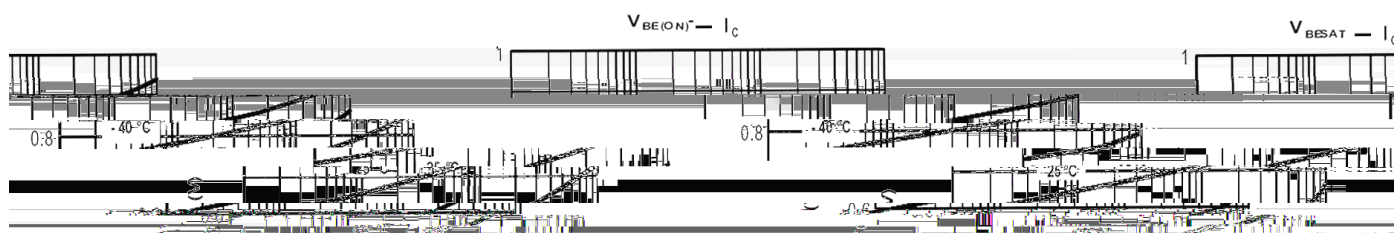
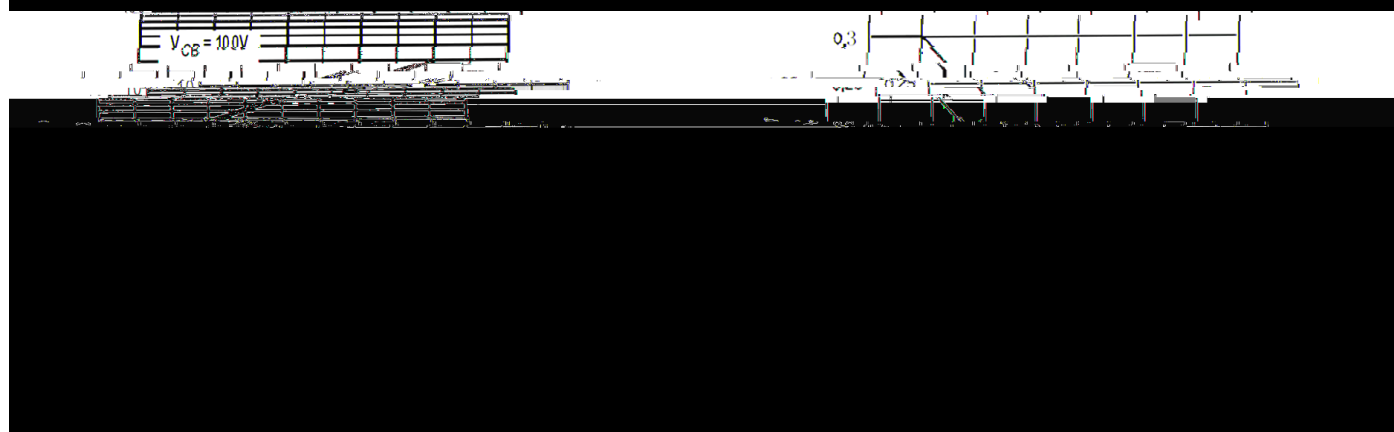
Parameter	Symbol	Test Conditions	Min	Typ
-----------	--------	-----------------	-----	-----



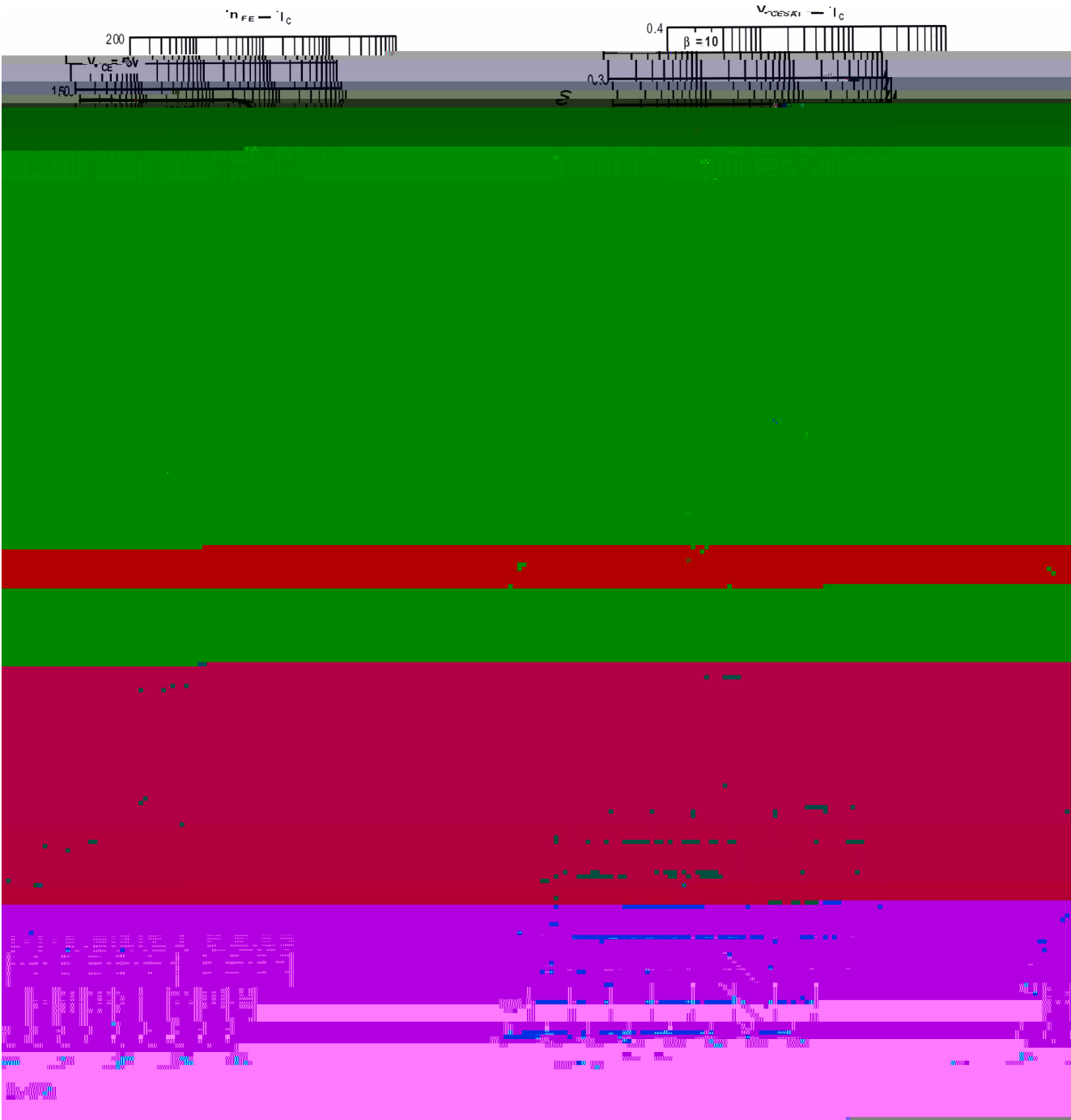
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-180V$ $I_E=0$			-0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-6.0V$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-5.0V$ $I_C=-10mA$	100	200	300	
	$h_{FE(2)}$	$V_{CE}=-5.0V$ $I_C=-50mA$	20	70		
	$h_{FE(3)}$	$V_{CE}=-5.0V$ $I_C=-1.0mA$	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}

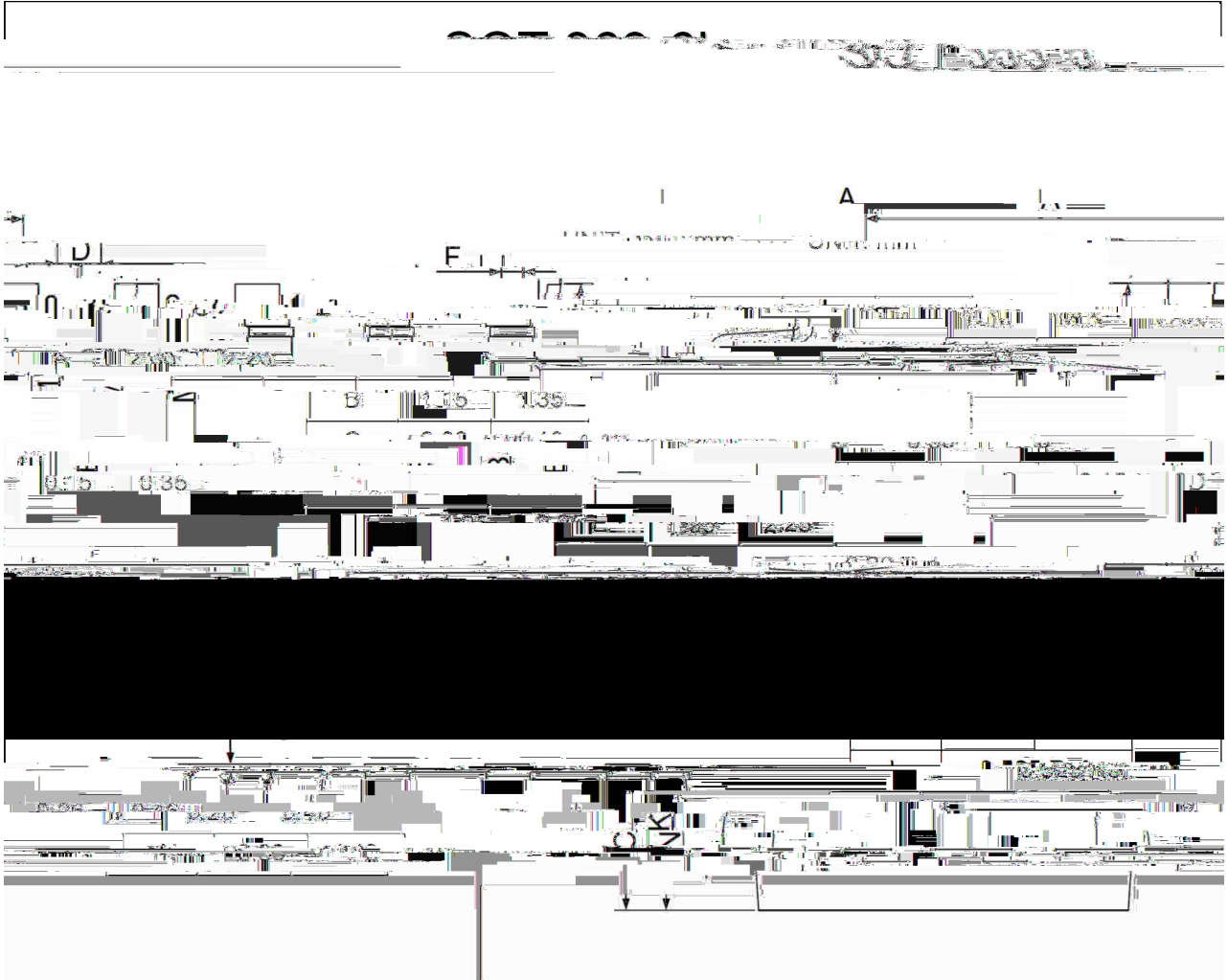
/ Electrical Characteristic Curve (Q1:NPN)



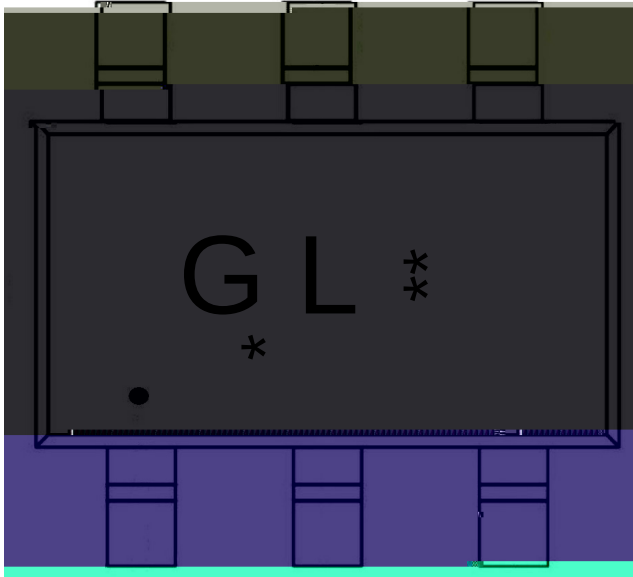
/ Electrical Characteristic Curve (Q2:PNP)



/ Package Dimensions



/ Marking Instructions



“ 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)

- 1

150 180

60 90sec;
- 2

245±5

5±0.5sec;
- 3

2 10

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

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL