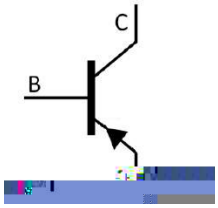
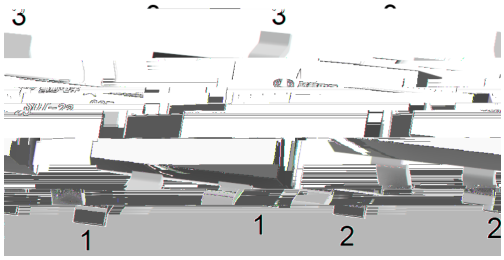
SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

AEC-Q101

Low $V_{CE(sat)}$, high current,Qualified to AEC-Q101 Standards for High Reliability, HF Product.

General purpose switching and muting, LCD back-lighting, supply line switching circuits, Meet the stringent requirements of automotive applications.





PIN 1 Base PIN 2 Emitter PIN 3 Collector

h_{FE} Range	>200
Marking	ZDQ

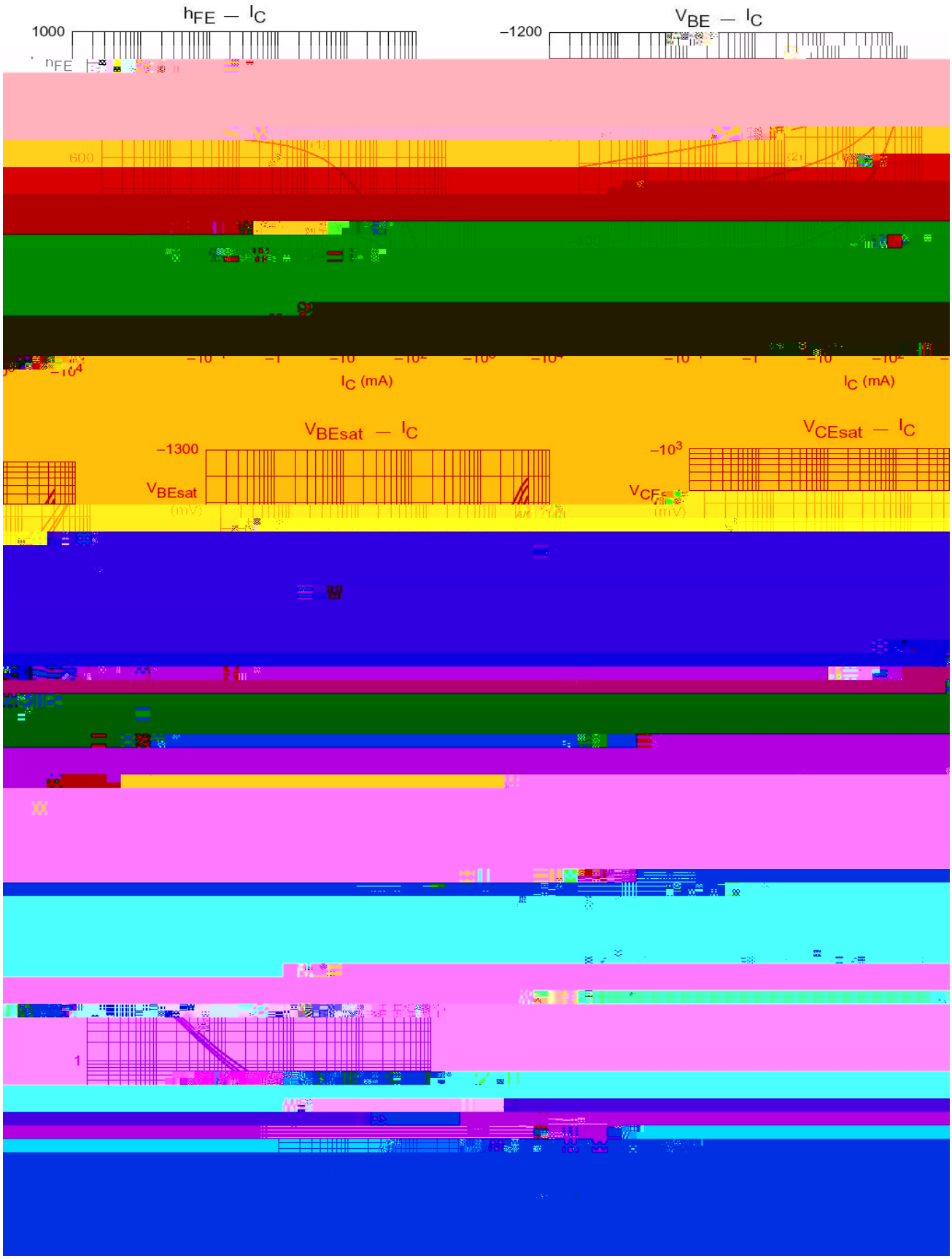
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Peak Collector Current	I_{CM}	-5	A
Base Current	I_B	-0.5	A
Total Power Dissipation	P_{tot} (1)	300	mW
Total Power Dissipation	P_{tot}(1 2)	1.2	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-65 150	

1 tp ≤ 100 ms δ ≤ 0.25

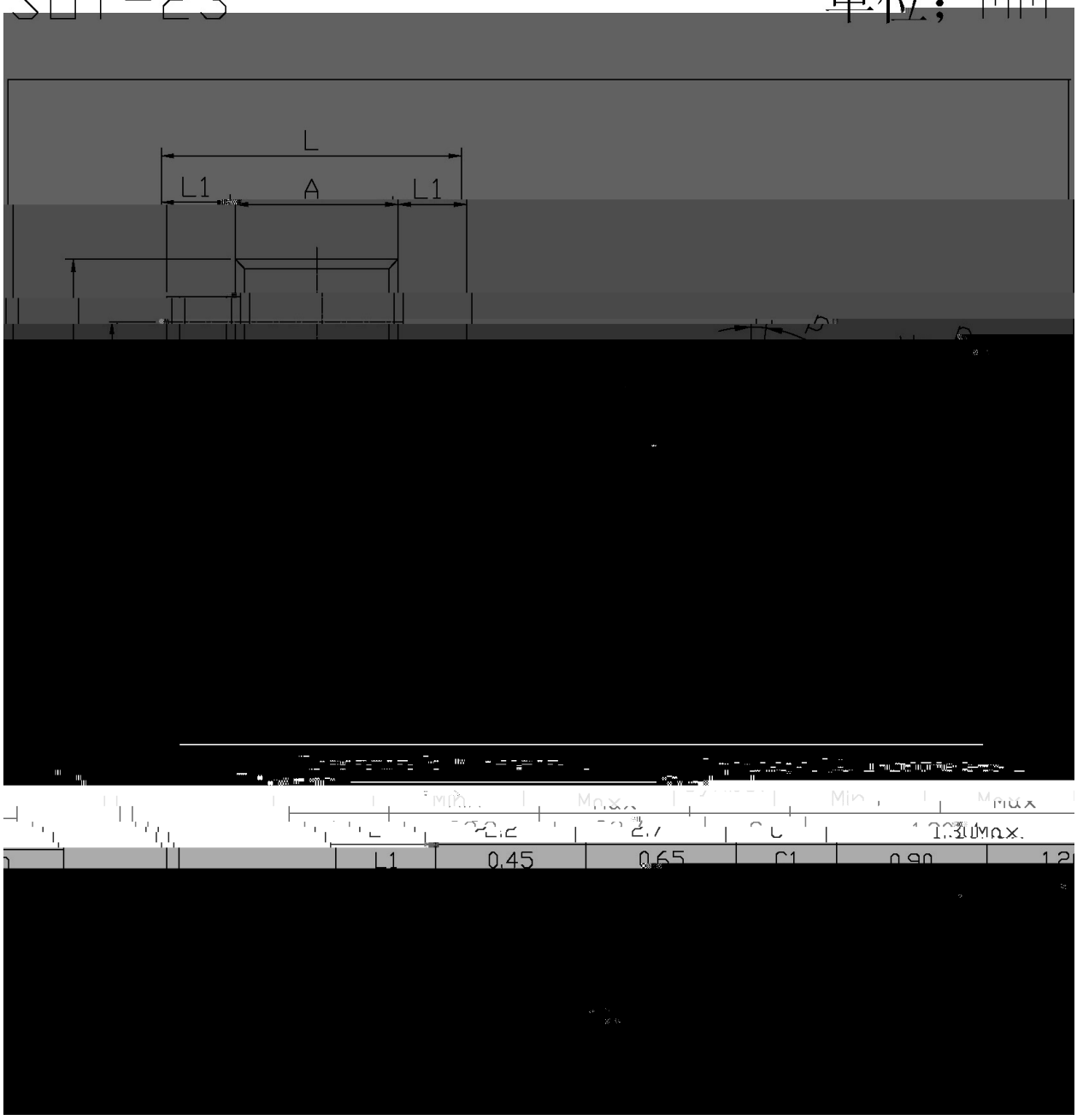
2

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=-50V I_E=0			-100	nA
		V_{CB}=-50V I_E=0 T_j=150			-50	A
emitter Cut-Off Current	I_{EBO}	V_{EB}=-5.0V I_C=0			-100	nA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-2.0V I_C=-100mA	200			
	$h_{FE(2)}$	V_{CE}=-2.0V I_C=-500mA	200			
	$h_{FE(3)}$*	V_{CE}=-2.0V I_C=-1.0A	200			
	$h_{FE(4)}$*	V_{CE}=-2.0V I_C=-2.0A	130			
	$h_{FE(5)}$*	V_{CE}=-2.0V I_C=-3.0A	80			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$*	I_C=-500mA I_B=-50mA			-80	mV
	$V_{CE(sat)(2)}$*	I_C=-2.0A I_B=-100mA			-320	mV
Equivalent On-Resistance	$R_{CE(sat)}$*	I_C=-2.0A I_B=-200mA		90	135	m
Base-Emitter Saturation Voltage	$V_{BE(sat)}$*	I_C=-2.0A I_B=-100mA			-1.1	V
		I_C=-3.0A I_B=-300mA			-1.2	V
Base-Emitter Voltage	$V_{BE(ON)}$*	V_{CE}=-2.0V I_C=-1.0A			-1.2	V
Transition Frequency	f_T	V_{CE}=-5.0V I_C=-100mA f=100MHz	100			MHz
Collector Capacitance	C_C	V_{CB}=-10V I_E=0 f=1.0MHz			35	pF

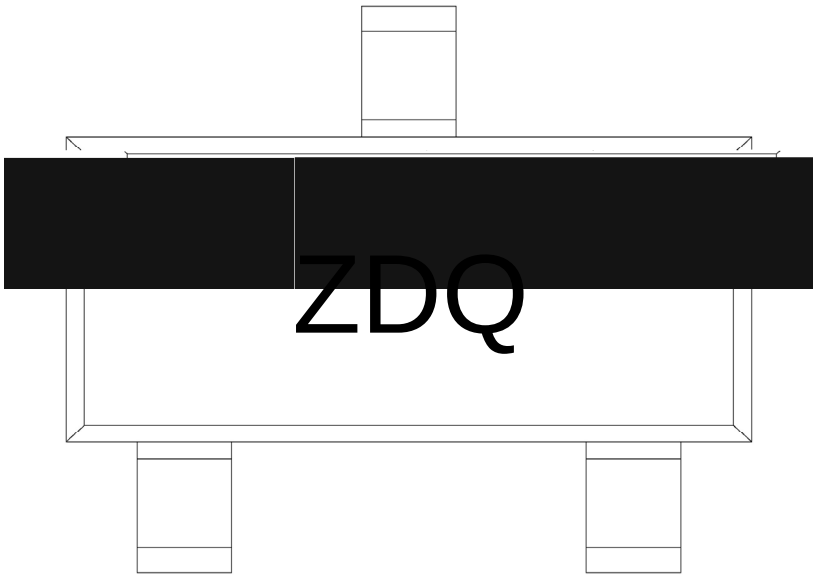
* : tp≤300μs; δ ≤ 0.02.


hFE — IC
1000
hFE
600
−10⁴
IC (mA)
VBE — IC
−1200
(2)
IC (mA)
VBEsat — IC
−1300
VBEsat
(mV)
VCEsat — IC
−10³
VCE
(mV)
1

SOT-23 单位：mm



	Min.	Max.	Min.	Max.
		2.7		1.30Max.
L1	0.45	0.65	C1	0.90



ZD

Q

Note:

ZD Product Type

Q: Automobile halogen-free product Code

Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

1	150 200 60 120sec;	1.Preheating:150~200 , Time:60~120sec.
2	255±5 5±0.5sec;	2.Peak Temp.:255±5 , Duration:5±0.5sec.
3	2 10 /sec.	3. Cooling Speed: 2~10 /sec.