

/ Descriptions

SOT-23

PNP

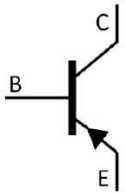
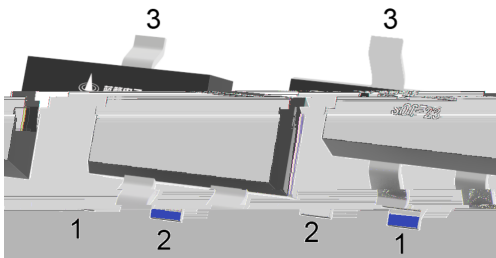
Silicon PNP transistor in a SOT-23 Plastic Package.

/ Features

AEC-Q101

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

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

/ Equivalent Circuit**/ Pinning**

PIN 1 Base

PIN 2 Emitter

PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Range	>200
Marking	ZDQ

/ Absolute Maximum Ratings(Ta=25)

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 $t_p \leq 100 \text{ ms}$ $\delta \leq 0.25$

2

/ Electrical Characteristics(Ta=25)

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

* : $t_p \leq 300\mu s; \delta \leq 0.02$.

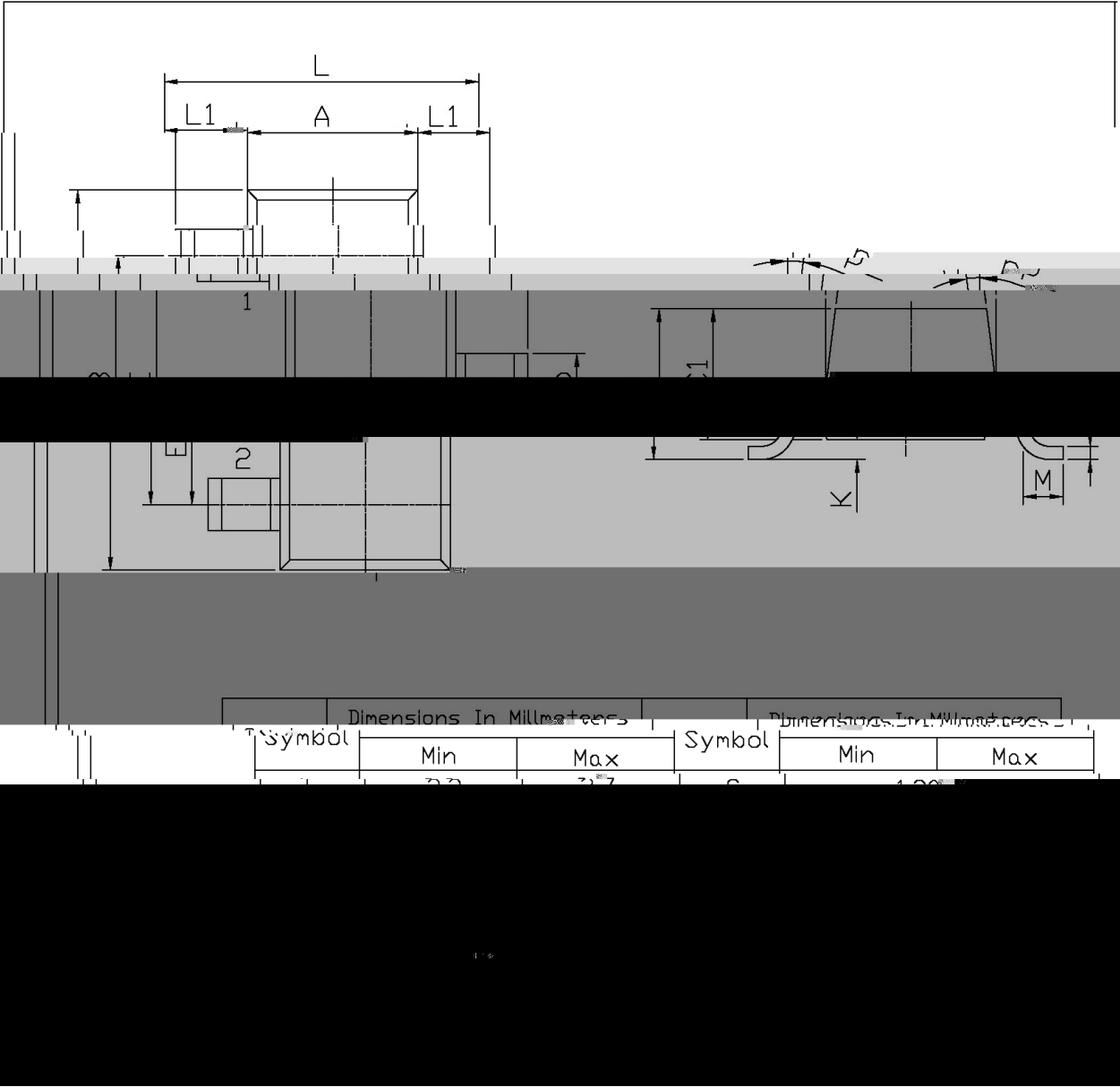
/ Electrical Characteristic Curve



/ Package Dimensions

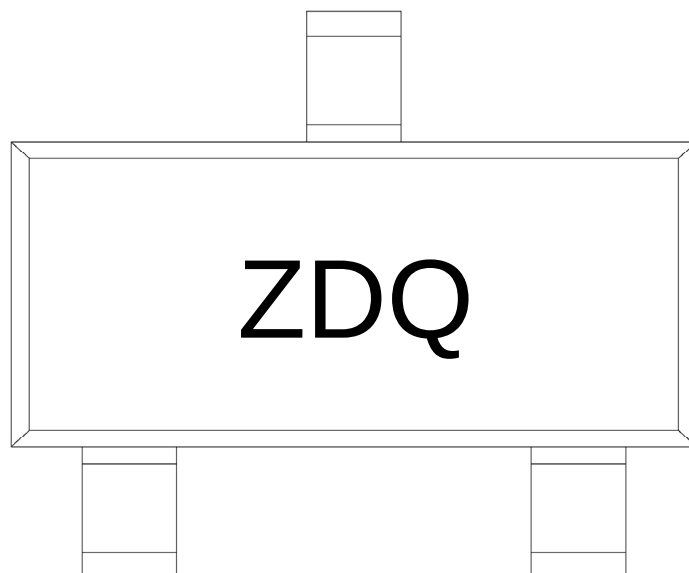
SOT-23

单位：mm





/ Marking Instructions



ZD

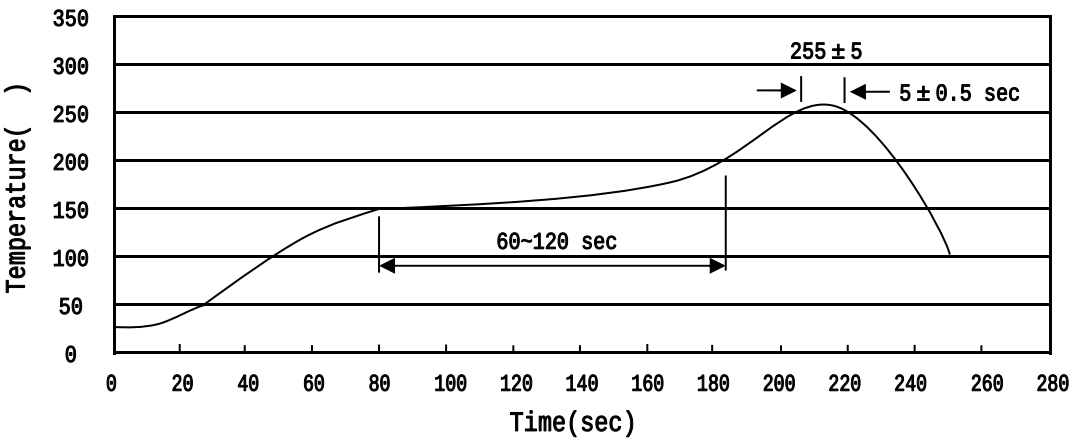
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Note:

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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices