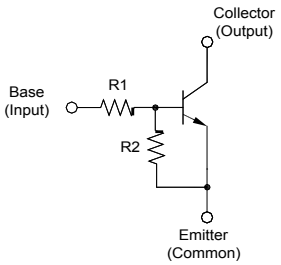
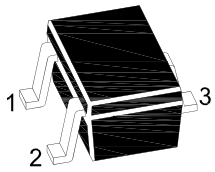
NPN Silicon Epitaxial Planar Digital Transistor

Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process





1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

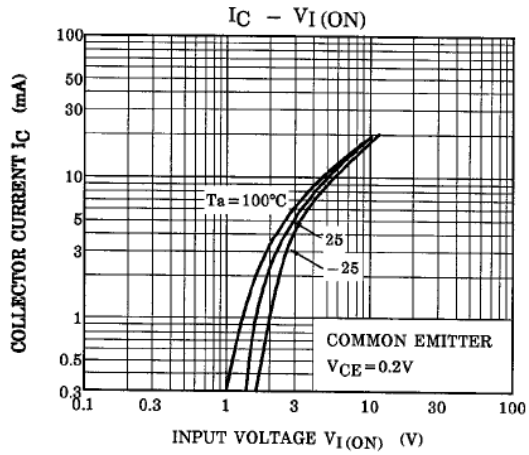
Absolute Maximum Ratings (T_a = 25 °C)

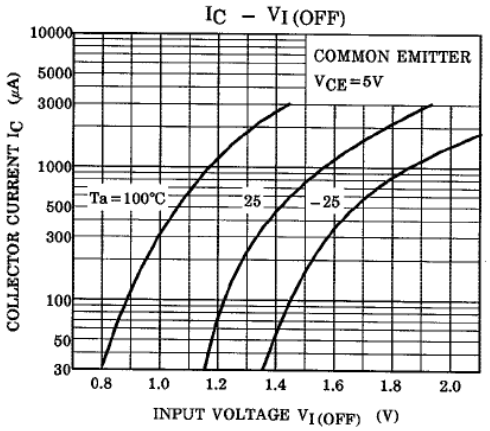
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	100	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

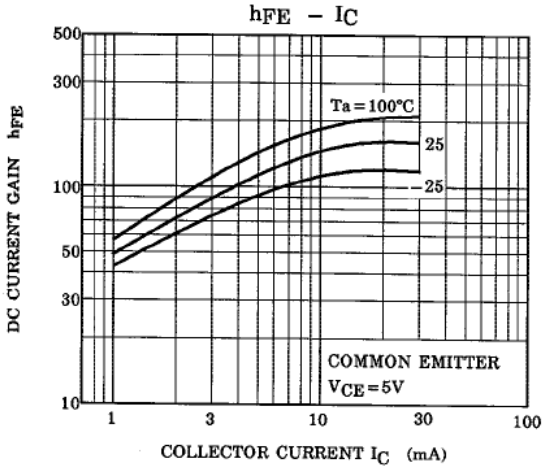
Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 10 mA	h_{FE}	80	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V	I_{CBO}	-	-	0.1	μA
Collector Emitter Cutoff Current at V_{CE} = 50 V	I_{CEO}	-	-	0.5	μA
Emitter Base Cutoff Current at V_{EB} = 10 V	I_{EBO}	0.082	-	0.15	mA
Collector Emitter Saturation Voltage at I_C = 5 mA, I_B = 0.25 mA	$V_{CE(sat)}$	-	-	0.3	V
Input Voltage (ON) at V_{CE} = 0.2 V, I_C = 5 mA	$V_{I(ON)}$	1.5	-	5	V
Input Voltage (OFF) at V_{CE} = 5 V, I_C = 0.1 mA	$V_{I(OFF)}$	1	-	1.5	V
Transition Frequency at V_{CE} = 10 V, I_C = 5 mA	f_T	-	250	-	MHz
Collector Output Capacitance at V_{CB} = 10V, f = 1 MHz	C_{ob}	-	-	6	pF
Input Resistance	R_1	32.9	47	61.1	KΩ
Resistance Ratio	R_2 / R_1	0.8	1	1.2	-

MMDTC1104E

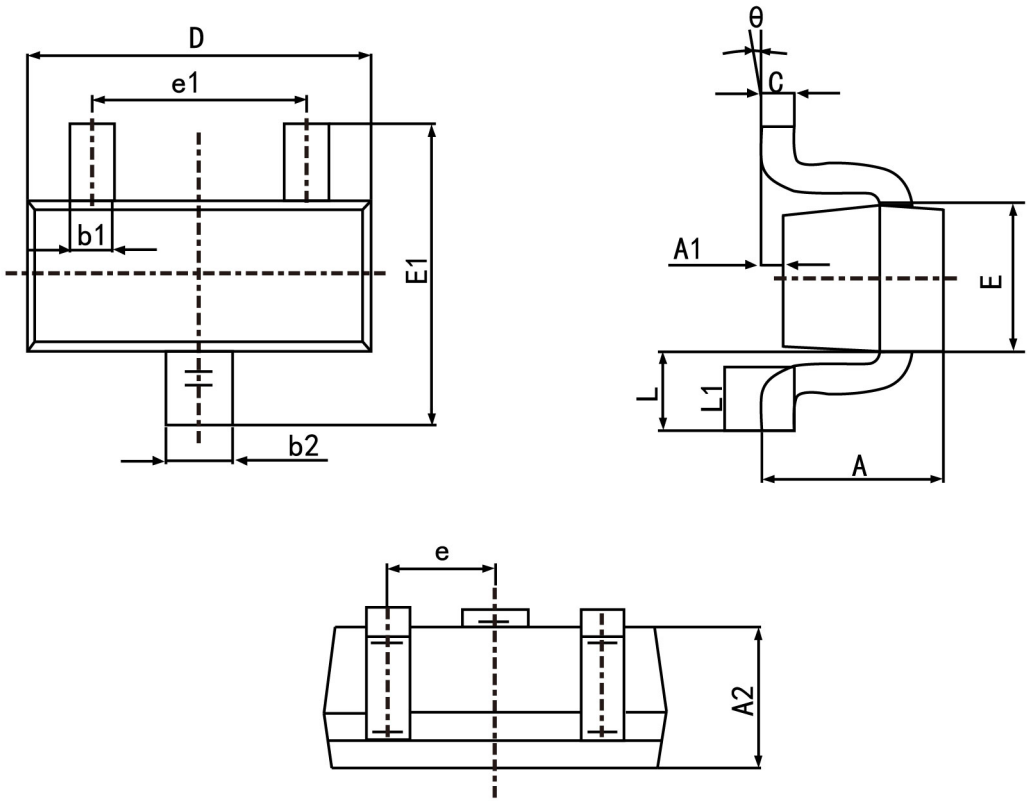






PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-523**



Symbol	Dimension in Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
c	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500	TYP.
e1	0.900	1.100
L	0.400 REF.	
L1	0.260	0.460
θ	0°	8°