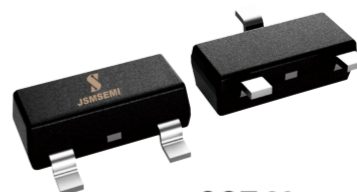
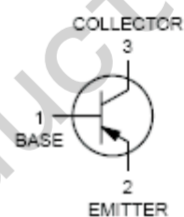


■ Features

- SOT-23 package


SOT-23

1. BASE
2. EMITTER
3. COLLECTOR


■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	MMBTA55	MMBTA56	Unit
Collector-emitter voltage	V_{CE0}	-60	-80	V
Collector-base voltage	V_{CB0}	-60	-80	V
Emitter-base voltage	V_{EB0}	-4.0		V
Collector current	I_C	-500		mA
Total Device Dissipation FR-5 Board(* 1)	P_D	225		mW
Derate above 25°C		1.8		mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556		$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (* 2)	P_D	300		mW
Derate above 25°C		2.4		mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417		$^\circ\text{C}/\text{W}$
Junction temperature	T_j	150		$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

* 1. FR-5 = 1.0 X 0.75 X 0.062 in.

* 2. Alumina = 0.4 X 0.3 X 0.024 in. 99.5% alumina.

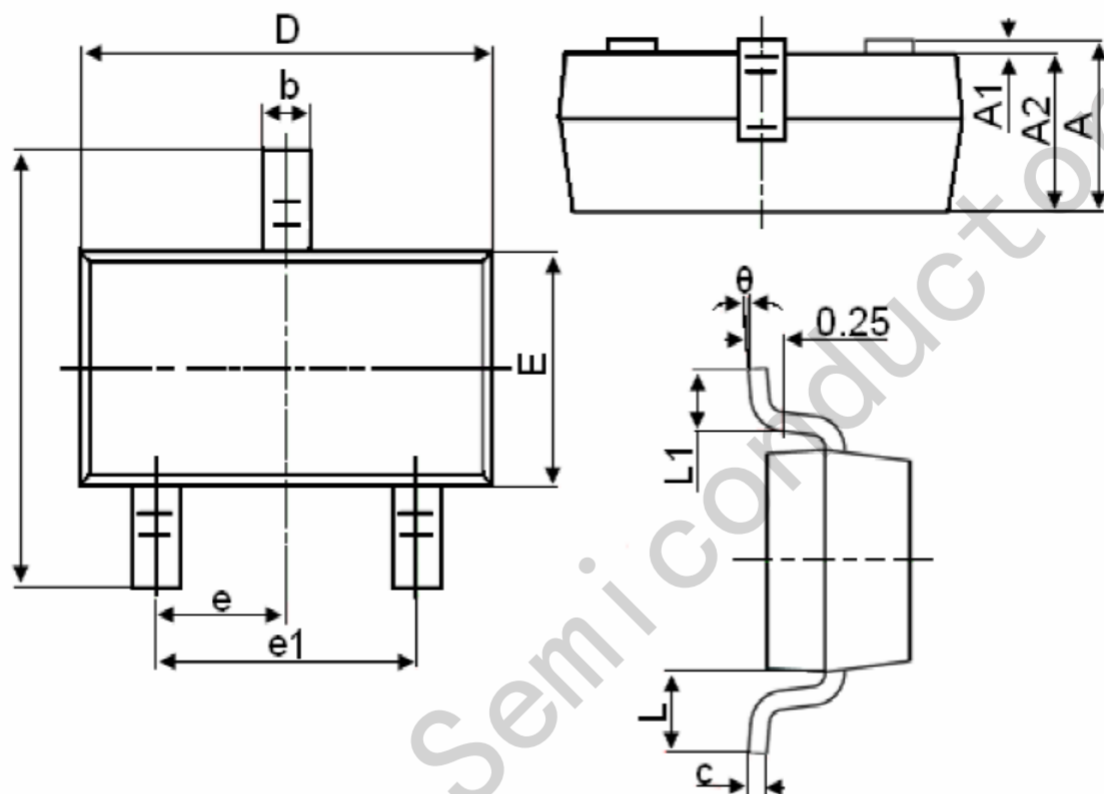
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage* MMBTA55 MMBTA56	$V_{(BR)CEO}$	$I_C = -1.0\text{ mA}, I_B = 0$	-60			V
			-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\text{ }\mu\text{A}, I_C = 0$	-4.0			V
Base cutoff current	I_{CES}	$V_{CE} = -60\text{ V}, I_B = 0$			-0.1	μA
Collector cutoff current MMBTA55 MMBTA56	I_{CBO}	$V_{CB} = -60\text{ V}, I_E = 0$			-0.1	μA
		$V_{CB} = -80\text{ V}, I_E = 0$			-0.1	μA
DC current gain	H_{FE}	$I_C = -10\text{ mA}, V_{CE} = -1.0\text{ V}$	100			
		$I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$			-0.25	V
Base-emitter saturation voltage	$V_{BE(on)}$	$I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}$			-1.2	V
Current-gain-bandwidth product	f_T	$I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}, f = 100\text{ MHz}$	50			MHz

 * Pulse test: pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2.0\%$.

Package Information

SOT-23



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°