

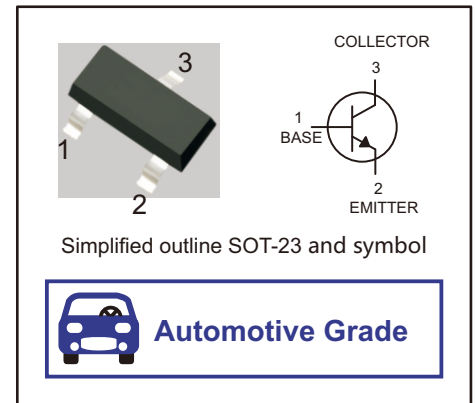
**AT-MMBTA42WD**  
**NPN TRANSISTOR**

**FEATURES**

- High breakdown voltage
- Low collector-emitter saturation voltage
- Qualified to AEC-Q101 Standards for High Reliability

**PINNING**

PIN	DESCRIPTION
1	BASE
2	EMITTER
3	COLLECTOR



**MAXIMUM RATINGS (Ta=25°C unless otherwise noted)**

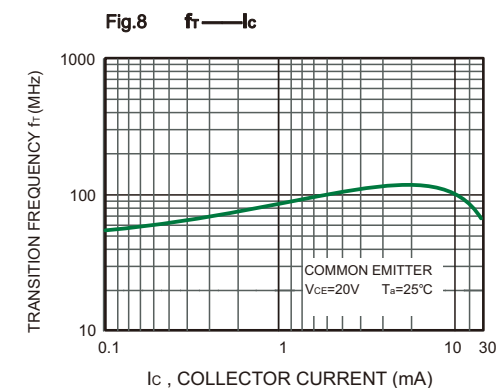
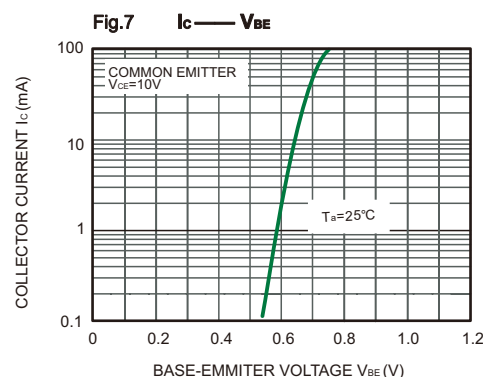
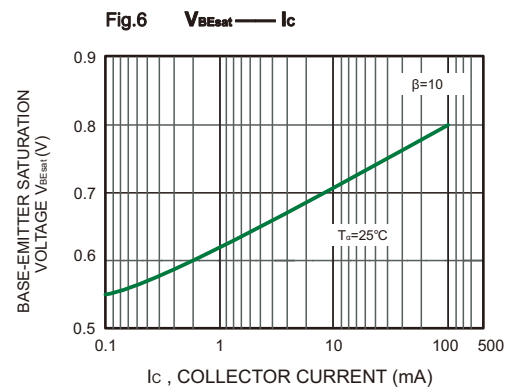
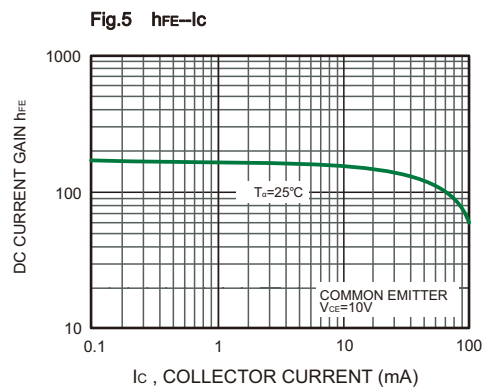
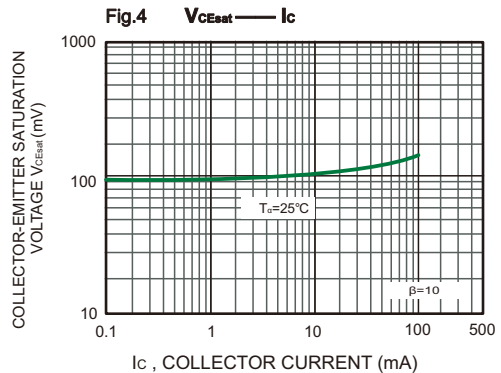
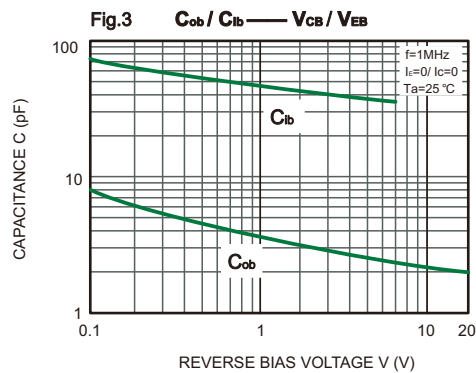
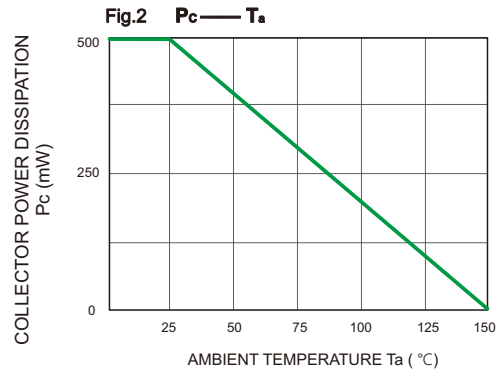
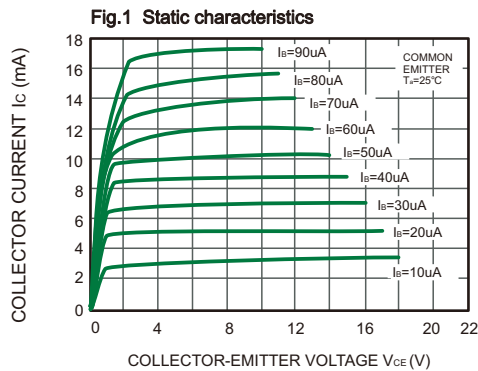
Parameter	Symbol	Value	Unit
Collector–Base Voltage	$V_{CBO}$	300	V
Collector–Emitter Voltage	$V_{CEO}$	300	V
Emitter–Base Voltage	$V_{EBO}$	5	V
Collector Current — Continuous	$I_C$	0.5	A
Collector Power Dissipation	$P_C$	0.225	W
Thermal Resistance, junction to Ambient	$R_{thJA}$	556	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

**ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	300		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	300		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 200V, I_E = 0$		0.25	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$		0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE} = 10V, I_C = 1mA$	60		
	$h_{FE(2)}$	$V_{CE} = 10V, I_C = 10mA$	100	200	
	$h_{FE(3)}$	$V_{CE} = 10V, I_C = 30mA$	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20mA, I_B = 2mA$		0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 20mA, I_B = 2mA$		0.9	V
Transition frequency	$f_T$	$V_{CE} = 20V, I_C = 10mA, f=30MHz$	50		MHz

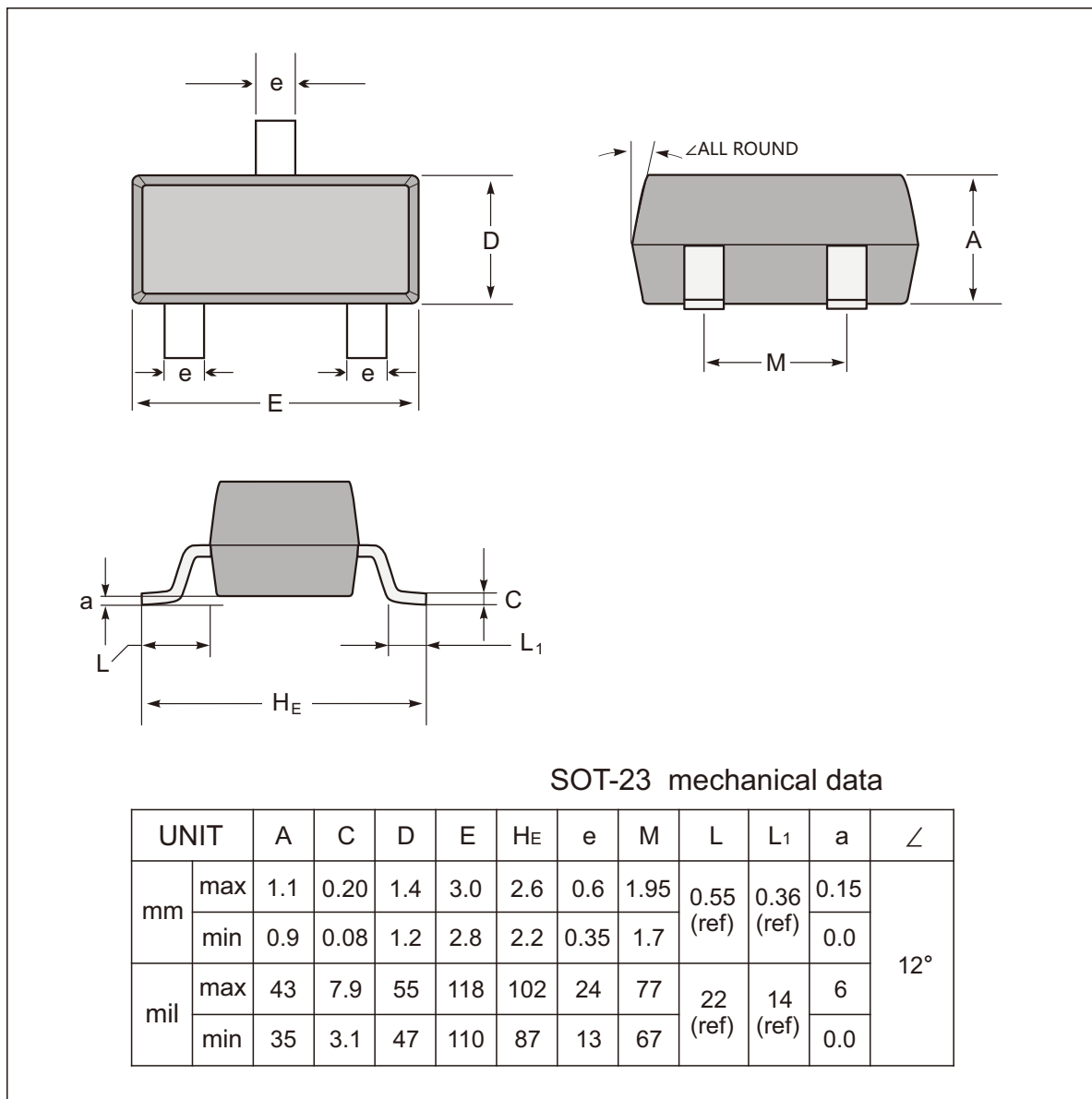


### TYPICAL CHARACTERISTICS

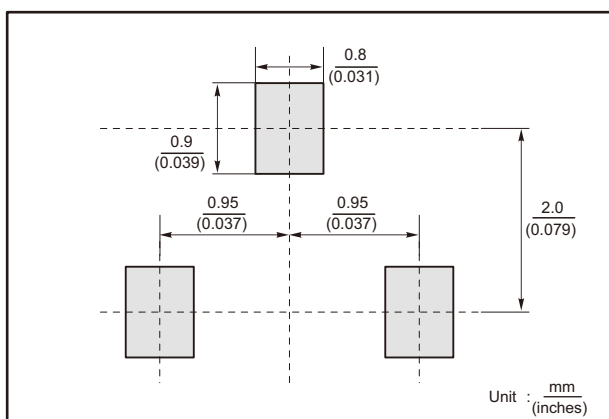




### SOT-23 Package Outline Dimensions



#### The recommended mounting pad size



#### Marking

Type number	Marking code
MMBTA42WD	1D



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