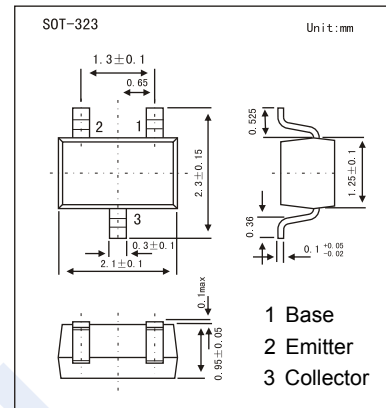
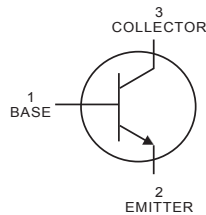


NPN Transistors

MMBTA42W (KMBTA42W)

■ Features

- Collector-emitter voltage $V_{CE} = 300V$
- Collector current $I_c = 500mA$
- NPN high voltage transistors

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	300	V
Collector - Emitter Voltage	V_{CE0}	300	
Emitter - Base Voltage	V_{EB0}	6	
Collector Current - Continuous	I_c	500	mA
Collector Power Dissipation (Note.1)	P_c	150	mW
Thermal resistance from junction to ambient (Note.1)	$R_{\theta JA}$	550	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-65 to 150	

Note.1: Mounted on an FR4 PCB, single-sided copper, mini pad.

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CB0}	$I_c = 100 \mu A, I_E = 0$	300			V
Collector-emitter breakdown voltage	V_{CE0}	$I_c = 1 mA, I_B = 0$	300			
Emitter-base breakdown voltage	V_{EB0}	$I_E = 100 \mu A, I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 200 V, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6 V, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20 mA, I_B = 2 mA$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 20 mA, I_B = 2 mA$			0.9	
DC current gain	$h_{FE(1)}$	$V_{CE} = 10 V, I_C = 1 mA$	60			
	$h_{FE(2)}$	$V_{CE} = 10 V, I_C = 10 mA$	100		200	
	$h_{FE(3)}$	$V_{CE} = 10 V, I_C = 30 mA$	70			
Collector output capacitance	C_{ob}	$V_{CB} = 20 V, I_E = 0, f = 1 MHz$			3	pF
Transition frequency	f_T	$V_{CE} = 20 V, I_C = 10 mA, f = 100 MHz$	50			MHz

■ Marking

Marking	1D
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NPN Transistors

MMBTA42W (KMBTA42W)

■ Typical Characteristics

