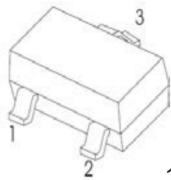


FEATURES

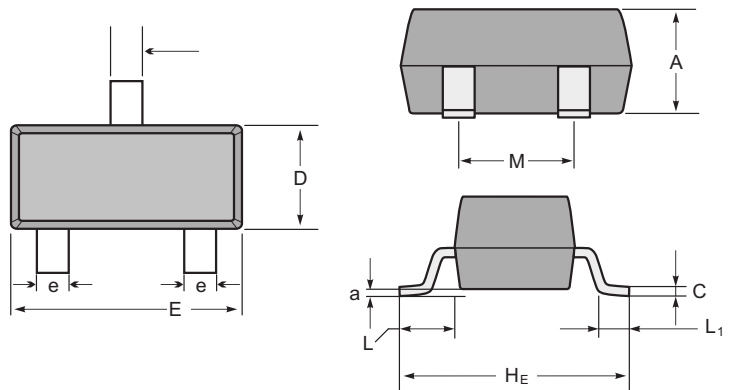
- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary to MMBTA42 (NPN)



1.BASE
2.EMITTER
3.COLLECTOR

Marking

Type number	Marking code
MMBTA42	1D



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

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

Parameter	Symbol	Value	Unit
Collector–Base Voltage	V _{CB0}	300	V
Collector–Emitter Voltage	V _{CE0}	300	V
Emitter–Base Voltage	V _{EBO}	5	V
Collector Current — Continuous	I _C	0.3	A
Collector Current-Peak	I _{CM}	0.5	A
Collector Power Dissipation	P _C	0.35	W
Thermal Resistance, junction to Ambient	R _{thJA}	357	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

MMBTA42

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	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	μA
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

RATING AND CHARACTERISTIC CURVES (MMBT42)

