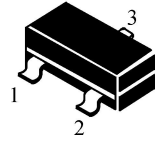


MMBTA42/MMBTA43

SOT-23

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



■ MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	GMA42 (MMBTA42)	GMA43 (MMBTA43)	Unit 單位
Collector-Emitter Voltage 集電極-射極電壓	V_{CEO}	300	200	Vdc
Collector-Base Voltage 集電極-極電壓	V_{CBO}	300	200	Vdc
Emitter-Base Voltage 發射極基極電壓	V_{EBO}	6.0	6.0	Vdc
Collector Current-Continuous 集極電流-連續	I_c	500	500	mAdc

■ THERMAL CHARACTERISTICS 熱特性

Characteristic 特性參數	Symbol 符號	Max 最大值	Unit 單位
Total Device Dissipation 總耗散功率 Board(1) $T_A=25^{\circ}\text{C}$ 環境溫度 25°C Derate above 25°C 超過 25°C 遞減	P_D	225	mW
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	556	$^{\circ}\text{C}/\text{W}$
Total Device Dissipation 總耗散功率 Alumina Substrate 氧化鋁襯底(2) $T_A=25^{\circ}\text{C}$ Derate above 25°C 超過 25°C 遞減	P_D	300	mW
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature 結溫和儲存溫度	T_J, T_{stg}	$150^{\circ}\text{C}, -55\text{to}+150^{\circ}\text{C}$	

■ DEVICE MARKING 打標

MMBTA42=1D MMBTA43=M1E



MMBTA42/MMBTA43

■ ELECTRICAL CHARACTERISTICS 電特性

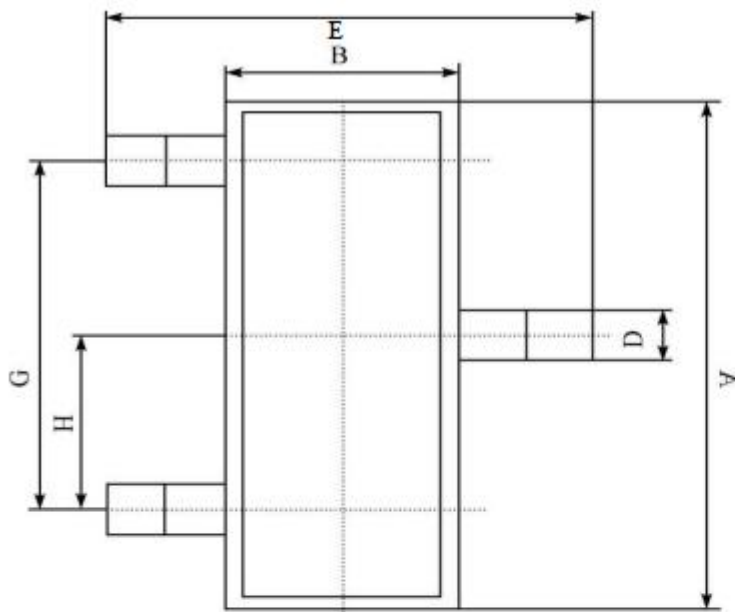
($T_A=25^{\circ}\text{C}$ unless otherwise noted 如無特殊說明, 溫度為 25°C)

Characteristic 特性參數	Symbol 符號	Min 最小值	Max 最大值	Unit 單位
Collector-Emitter Breakdown Voltage(3) 集電極-射極擊穿電壓($I_C=1\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$ A42 A43	300 200	— —	Vdc
Collector-Base Breakdown Voltage 集電極-基極擊穿電壓($I_C=100\mu\text{A}$, $I_E=0$)	$V_{(BR)CBO}$ A42 A43	300 200	— —	Vdc
Emitter-Base Breakdown Voltage 發射極-基極擊穿電壓($I_E=100\mu\text{A}$, $I_C=0$)	$V_{(BR)EBO}$	6.0	—	Vdc
Emitter Cutoff Current 發射極截止電流 ($V_{EB}=6.0\text{Vdc}$, $I_C=0$) ($V_{EB}=4.0\text{Vdc}$, $I_C=0$)	I_{EBO} A42 A43	— —	100 100	nAdc
Collector Cutoff Current 集電極截止電流 ($V_{CB}=200\text{Vdc}$, $I_E=0$) ($V_{CB}=160\text{Vdc}$, $I_E=0$)	I_{CBO} A42 A43	— —	100 100	nAdc
DC Current Gain 直流電流增益	H_{FE}			—
($I_C=1.0\text{mA}$, $V_{CE}=10.0\text{Vdc}$)		25	—	
($I_C=10\text{mA}$, $V_{CE}=10.0\text{Vdc}$)		40	300	
($I_C=30\text{mA}$, $V_{CE}=10.0\text{Vdc}$)	A42 A43	40 40	—	
Collector-Emitter Saturation Voltage 集電極-發射極飽和壓降 ($I_C=20\text{mA}$, $I_B=2.0\text{mA}$)	$V_{CE(sat)}$ A42 A43	— —	0.5 0.5	Vdc
Base-Emitter Saturation Voltage 基極-發射極飽和壓降 ($I_C=20\text{mA}$, $I_B=2.0\text{mA}$)	$V_{BE(sat)}$	—	0.9	Vdc
Current-Gain-Bandwidth Product 電流增益帶寬乘積 ($I_C=10\text{mA}$, $V_{CE}=20\text{Vdc}$, $f=100\text{MHz}$)	f_T	50	—	MHz
Collector-Base Capacitance 輸出電容 ($V_{CB}=20.0\text{Vdc}$, $I_E=0$, $f=1.0\text{MHz}$)	C_{cb} A42 A43	— —	3.0 4.0	pF

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.
3. Pulse Width≤300us;Duty Cycle≤2.0%.

MMBTA42/MMBTA43

■ DIMENSION 外形封装尺寸



代碼	範圍(單位:mm)
A	2.80~3.00
B	1.20~1.40
C	0.90~1.10
D	0.30~0.50
E	2.20~2.60
G	1.80~2.00
H	0.90~1.00
J	0.08~0.18
K	0.02~0.12
M	≥0.22
N	0.50~0.70
P	6°~10°

