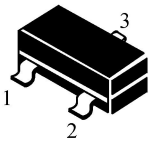
桂林斯壯桂微電子有限責任公司
Guilin Strong Micro-Electronics Co.,Ltd.

GMBTA42(销售型號 MMBTA42) GMBTA43(销售型號 MMBTA43)

SOT—23

1. BASE
2. EMITTER
3. COLLECTOR



■FEATURES 特點

NPN　High Voltage Transistor

■MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	GMBTA42	GMBTA43	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	Ic	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℃環境溫度 25℃ Derate above25℃ 超過 25℃遞減	P_D	225 1.8	mW mW/℃
Thermal Resistance Junction to Ambient 熱阻	$R_{\Theta JA}$	556	℃/W
Total Device Dissipation 總耗散功率 Alumina Substrate 氧化鋁襯底(2)T_A=25℃ Derate above25℃ 超過 25℃遞減	P_D	300 2.4	mW mW/℃
Thermal Resistance Junction to Ambient 熱阻	$R_{\Theta JA}$	417	℃/W
Junction and Storage Temperature 結溫和儲存溫度	T_J, T_{stg}	150℃, -55to+150℃	

■DEVICE　MARKING 打標

GMBTA42(销售型號 MMBTA42)=1D;GMBTA43(销售型號 MMBTA43)=M1E

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■ELECTRICAL CHARACTERISTICS 電特性

(T_A=25℃ unless otherwise noted 如無特殊說明，溫度爲 25℃**)**

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=1mAdc,I_B=0)	$V_{(BR)CEO}$ GMBTA42 GMBTA43	 300 200	 — —	 Vdc
Collector-Base Breakdown Voltage 集電極-基極擊穿電壓(I_C=100μAdc,I_E=0)	$V_{(BR)CBO}$ GMBTA42 GMBTA43	 300 200	 — —	 Vdc
Emitter-Base Breakdown Voltage 發射極-基極擊穿電壓(I_E= 100μAdc ,I_C=0)	$V_{(BR)EBO}$	6.0	—	Vdc
Emitter Cutoff Current 發射極截止電流 (V_{EB}=6.0Vdc,I_c=0) (V_{EB}=4.0Vdc,I_c=0)	I_{EBO} GMBTA42 GMBTA43	 — —	 100 100	 nAdc
Collector Cutoff Current 集電極截止電流 (V_{CB}=200Vdc,I_E=0) (V_{CB}=160Vdc,I_E=0)	I_{CBO} GMBTA42 GMBTA43	 — —	 100 100	 nAdc
DC Current Gain 直流電流增益	H_{FE}			—
(I_c=1.0mAdc,V_{CE}=10.0Vdc)		25	—	
(I_c=10mAdc,V_{CE}=10.0Vdc)		40	300	
(I_c=30mAdc,V_{CE}=10.0Vdc)	GMBTA42 GMBTA43	40 40	— —	
Collector-Emitter Saturation Voltage 集電極-發射極飽和壓降 (I_c=20mAdc, I_B=2.0mAdc)	$V_{CE(sat)}$ GMBTA42 GMBTA43	 — —	 0.5 0.5	 Vdc
Base-Emitter Saturation Voltage 基極-發射極飽和壓降 (I_c=20mAdc, I_B=2.0mAdc)	$V_{BE(sat)}$	—	0.9	Vdc
Current-Gain-Bandwidth Product 電流增益帶寬乘積 (I_c=10mAdc,V_{CE}=20Vdc,f=100MHz)	f_T	50	—	MHz
Collector-Base Capacitance 輸出電容 (V_{CB}=20.0Vdc, I_E=0, f=1.0MHz)	C_{cb} GMBTA42 GMBTA43	 — —	 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%.

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■TYPICAL CHARACTERISTIC CURVE
典型特性曲线

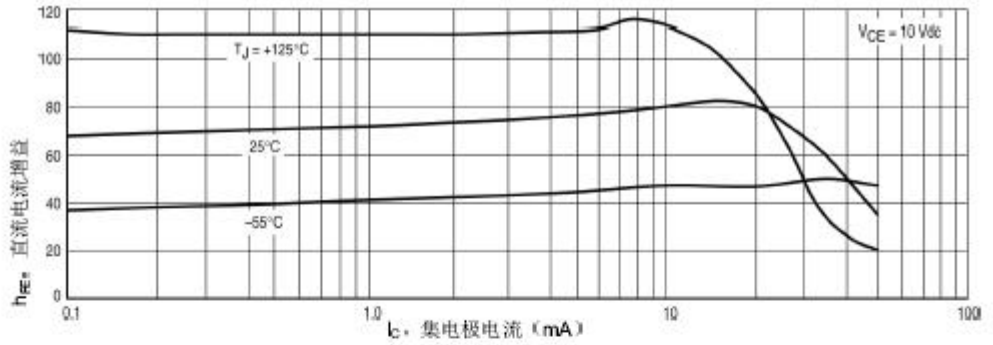

图 1. 直流电流增益

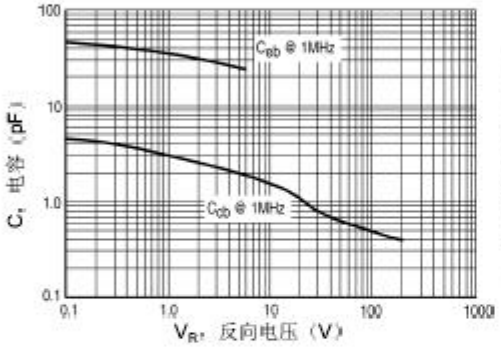

图 2. 电容

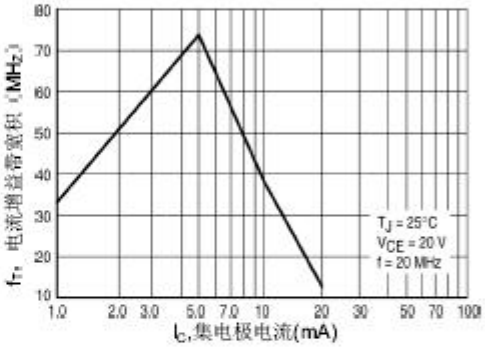

图 3. 电流增益带宽积

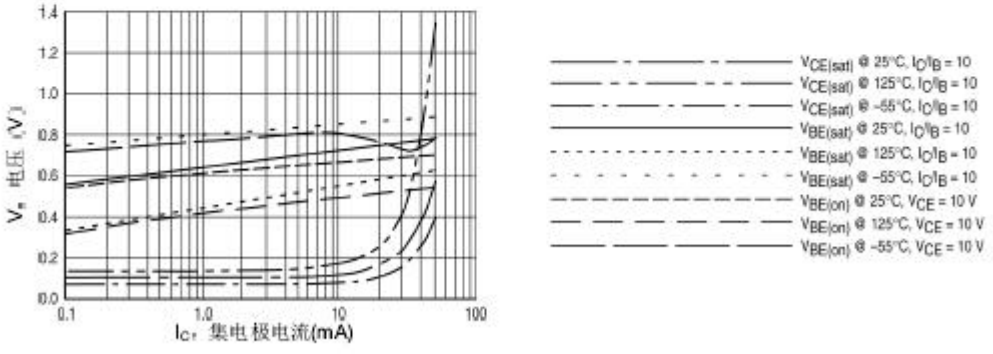

图 4. 导通电压