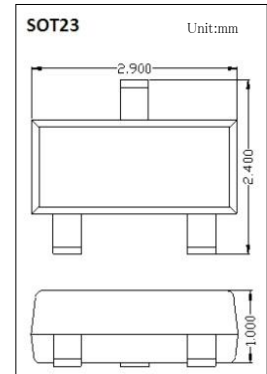
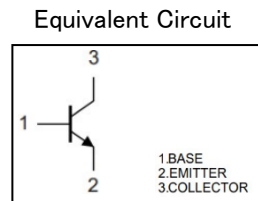


DATA SHEET(Preliminary)

MMBTA05

- ◇ Epitaxial Planar Die Construction
- ◇ Ideal for Medium Power Amplification and Switching
- ◇ RoHS compliant / Green EMC
- ◇ Reduces Board Space and Component Count
- ◇ Epoxy Meets UL 94 V-0 Flammability Rating

Device	Marking
MMBTA05	1H



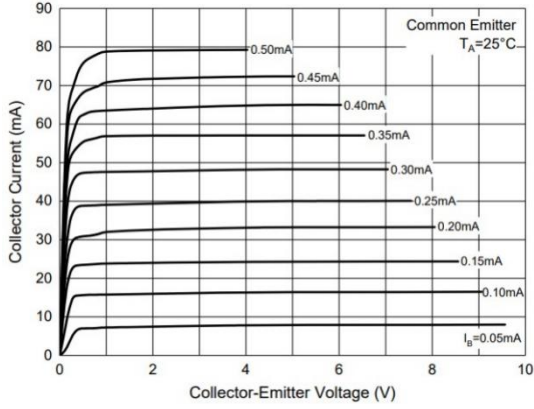
Maximum Ratings (Ta = 25 °C)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	500	mA
P_D	Power Dissipation	300	mW
T_j	Junction Temperature	-55~+150	°C
T_{stg}	Storage Temperature	-55~+150	°C
$R_{\theta JA}$	Thermal Resistance - Junction-to-Ambient (Note 1)	417	°C/W

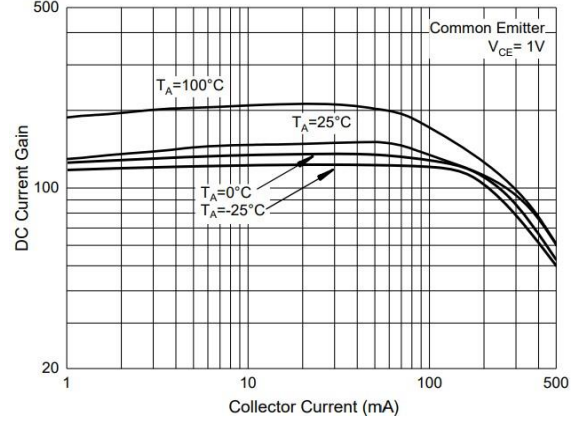
Electrical Characteristics (Ta = 25 °C)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
I_{CBO}	Collector–Base Cutoff Current	$V_{CB} = 60\text{ V}, I_E = 0$			0.1	$\mu\text{ A}$
I_{CEO}	Collector–Emitter Cutoff Current	$V_{CE} = 60\text{ V}, I_B = 0$			1	$\mu\text{ A}$
I_{EBO}	Emitter–Base Cutoff Current	$V_{EB} = 3.0\text{ V}, I_C = 0$			0.1	mA
$V_{(BR)CBO}$	Collector–Base Breakdown Voltage	$I_C = 100\ \mu\text{ A}, I_E = 0$	60			V
$V_{(BR)CEO}$	Collector–Emitter Breakdown Voltage	$I_C = 1.0\text{mA}, I_B = 0$	60			V
$V_{(BR)EBO}$	Emitter–Base Breakdown Voltage	$I_E = 100\ \mu\text{ A}, I_C = 0$	4			V
$h_{FE(1)}$	DC Current Gain	$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	100		400	
$h_{FE(2)}$		$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	100			
$V_{CE(sat)}$	Collector–Emitter Saturation Voltage	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			0.25	V
$V_{BE(sat)}$	Base–Emitter Saturation Voltage	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			1.2	V
f_T	Transition Frequency	$V_{CE}=2\text{V}, I_C=10\text{mA},$ $f=100\text{MHz}$	100			MHz

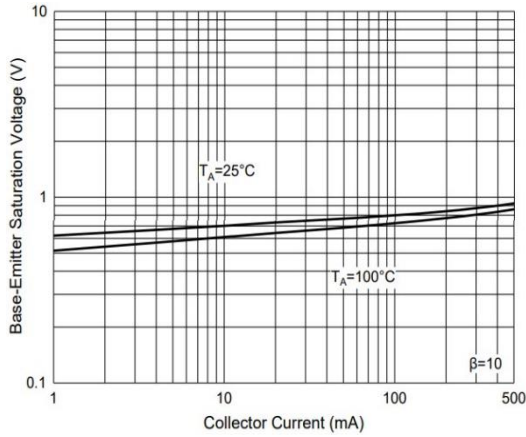
Typical Characteristics



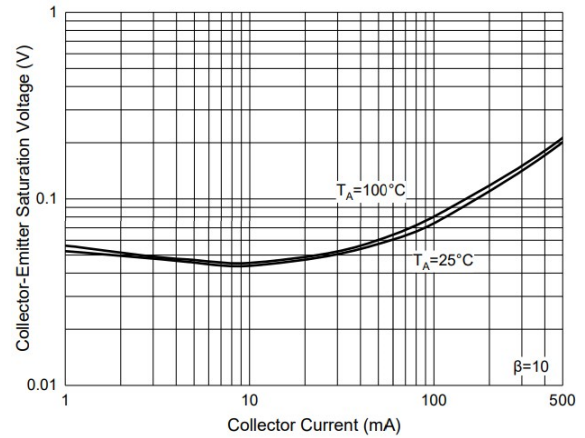
Static Characteristics



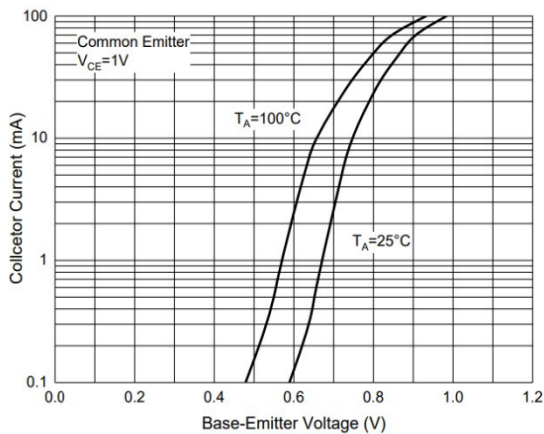
DC Current Gain Characteristics



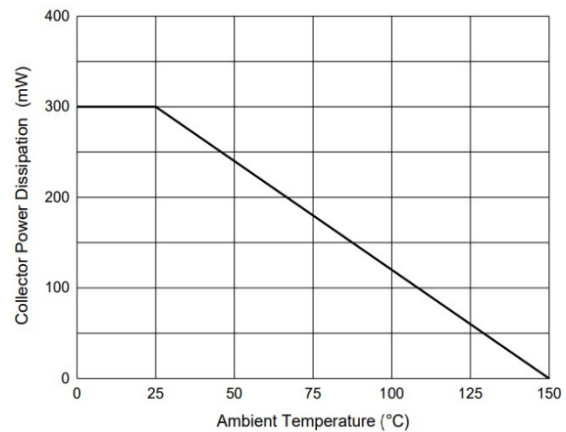
Base-Emitter Saturation Voltage Characteristics



Collector-Emitter Saturation Voltage Characteristics



Base-Emitter Voltage Characteristics



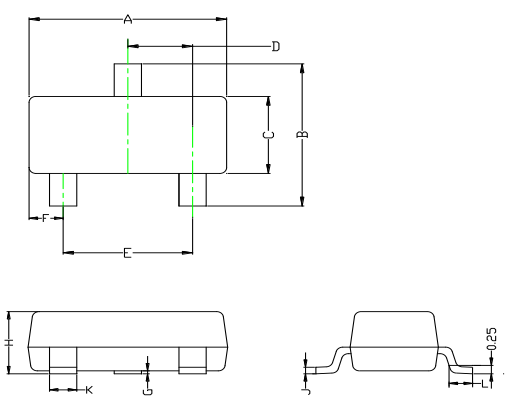
Collector Power Derating Curve

Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
MMBTA05	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

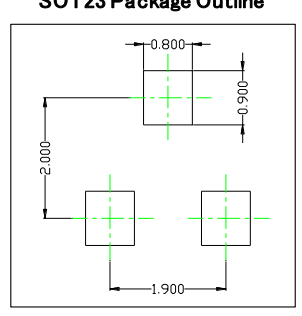
Package Dimensions

Package outline : SOT23



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.085	0.180
K	0.370	0.510
L	0.300	0.500

SOT23 Package Outline



Land Pattern Recommendation

Notice:

- 1.Lead plating: Pb free solder
- 2.Lead thickness includes solder plating
- 3.Lead frame: CAC-5
- 4.Other Tolerance: ± 0.05

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [amsem manufacturer](#):

Other Similar products are found below :

[BC559C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [IMX9T110](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SC4618TLN](#) [CPH6501-TL-E](#) [US6T6TR](#) [BAX18/A52R](#) [BC556/112](#) [IMZ2AT108](#) [MMST8098T146](#) [MCH6102-TL-E](#) [BC846B-13-F](#) [2N3879](#) [30A02MH-TL-E](#) [NTE13](#) [NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [JANTX2N2920L](#) [JANSR2N2907AUB](#) [CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#) [MMDT3946FL3-7](#) [2N4240](#) [JANS2N3019](#) [MSB30KH-13](#) [2N2221AUB](#) [2SD1815T-TL-E](#) [2N6678](#) [2N2907Ae4](#) [JAN2N3507](#)