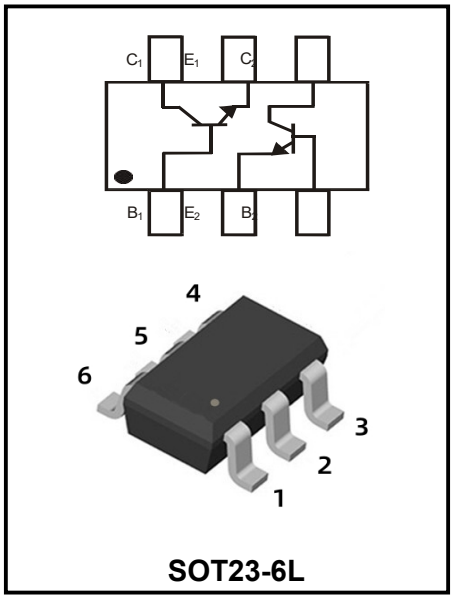
Plastic-Encapsulate Transistors

DUAL TRANSISTOR (NPN+NPN)



SOT23-6L

FEATURES

- High breakdown voltage
- Low collector-emitter saturation voltage
- Two (galvanic) internal isolated NPN/NPN Transistor in one package

Marking Code	
MMBTA06F	1GS

MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

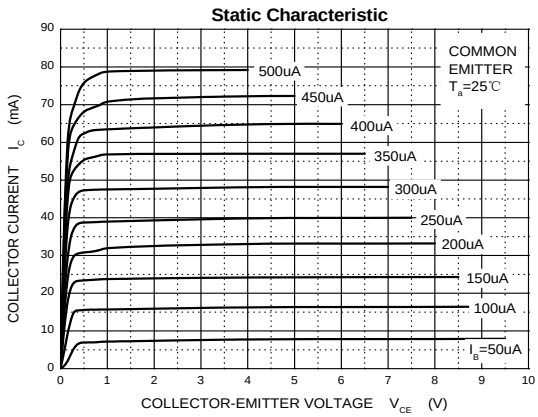
Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	80	V
Collector-base voltage	V_{CBO}	80	
Emitter-base voltage	V_{EBO}	4	
Collector current	I_C	500	mA
Peak collector current,tp≤10 ms	I_{CM}	1	A
Base current	I_B	100	mA
Peak base current	I_{BM}	200	
Total power dissipation-T_S≤115 °C	P_{tot}	700	mW
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-65 +150	
Junction - soldering point1)	R_{thJS}	≤180	K/W

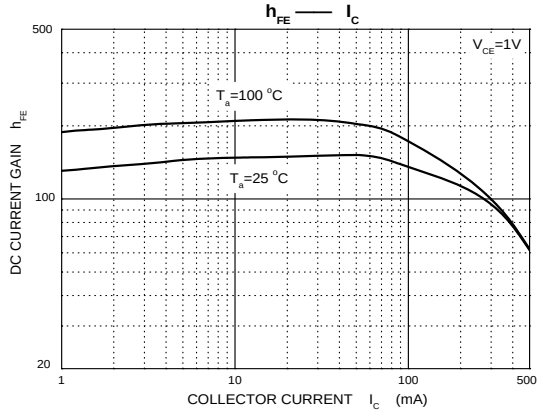
Electrical Characteristics at T_A = 25°C, unless otherwise specified

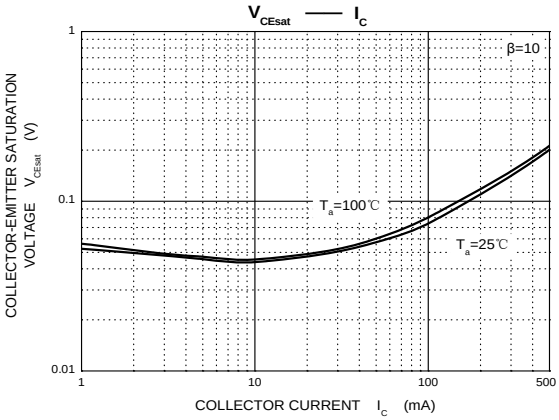
Parameter	Test Condition	Symbol	min	typ	max	Unit
Collector-emitter breakdown voltage	I_C = 1 mA, I_B = 0	$V_{(BR)CEO}$	80	-	-	V
Collector-base breakdown voltage	I_C= 100 μA, I_E = 0	$V_{(BR)CBO}$	80	-	-	
Emitter-base breakdown voltage	I_E = 10 μA, I_C = 0	$V_{(BR)EBO}$	4	-	-	
Collector-base cutoff current	V_{CB} = 80 V, I_E = 0	I_{CBO}	-	-	0.1	μA
	V_{CB} = 80 V, I_E = 0 , T_A = 150°C		-	-	20	
Collector-emitter cutoff current	V_{CE} = 60 V, I_B = 0	I_{CEO}	-	-	0.5	uA
DC current gain [2]	I_C = 10 mA, V_{CE} = 1 V	h_{FE}	100	-	-	-
	I_C = 100 mA, V_{CE} = 1 V		100	-	-	
Collector-emitter saturation voltage [2]	I_C = 100 mA, I_B = 10 mA	V_{CEsat}	-	-	0.25	V
Base-emitter voltage [2]	I_C = 100 mA, V_{CE} = 1 V	$V_{BE(ON)}$	-	-	1.2	
Transition frequency	I_C = 20 mA, V_{CE} = 5 V, f = 20 MHz	f_T	-	100	-	MHz
Collector-base capacitance	V_{CB} = 10 V, f = 1 MHz	C_{cb}	-	7	-	pF

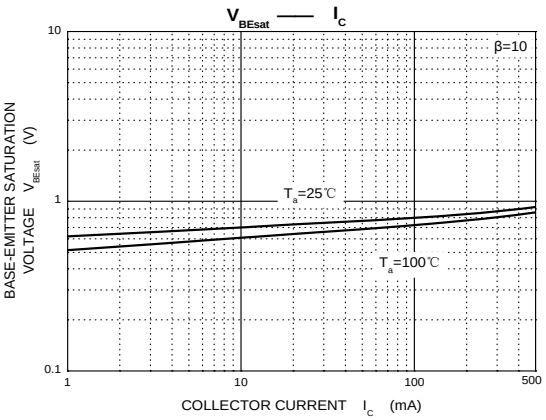
1.For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)
2.Pulse test: t < 300μs; D < 2%

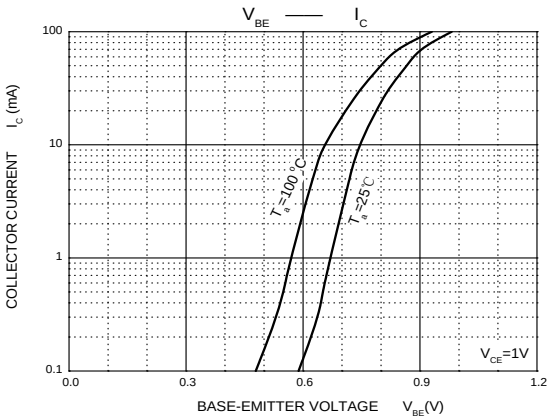
Typical Characteristics

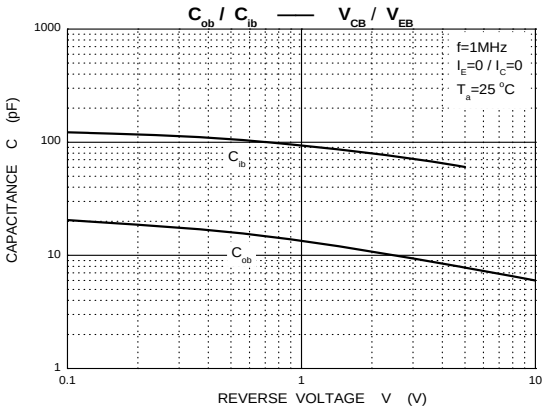


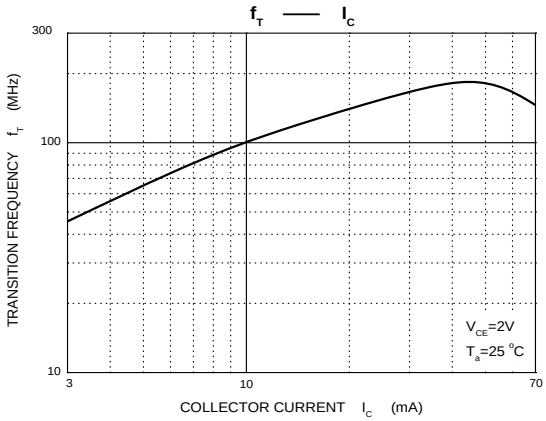


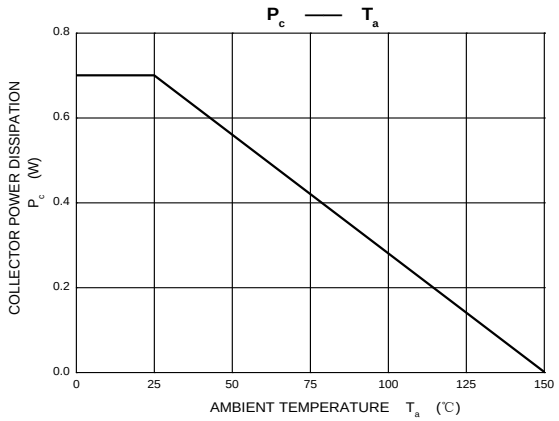










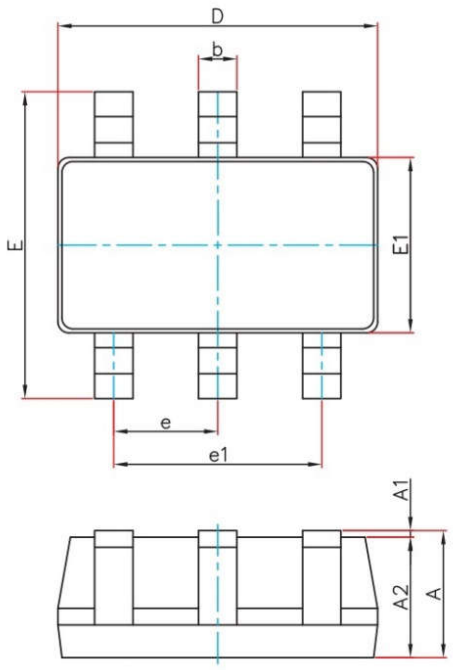


Ordering information

Package	Packing Description	Packing Quantity
SOT23-6L	Tape/Reel,7”reel	3000PCS/Reel 120000PCS/Carton

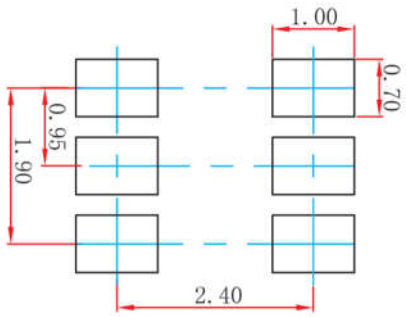
Package Dimensions

SOT23-6L



Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.05	1.25	41	49
A1	0	0.10	0	3.9
A2	1.05	1.15	41	45
b	0.30	0.50	11.8	19.7
c	0.10	0.20	3.9	7.9
D	2.82	3.02	111	119
E1	1.50	1.70	45	67
E	2.65	2.95	104	116
e	0.950(BSC)		37(BSC)	
e1	1.80	2.00	71	79
L	0.30	0.60	11.8	23.6
θ	0°	8°	0°	8°

The recommended mounting pad size



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