

Driver Transistors PNP Silicon

● FEATURES

- 1) We declare that the material of product compliant with RoHS requirements and Halogen Free.
- 2) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

● DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMBTA56LT1G	2GM	3000/Tape&Reel
LMBTA56LT3G	2GM	10000/Tape&Reel

● MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V _{CEO}	-80	Vdc
Collector–Base Voltage	V _{CBO}	-80	Vdc
Emitter–Base Voltage	V _{EBO}	-4.0	Vdc
Collector Current — Continuous	I _c	-500	mAdc

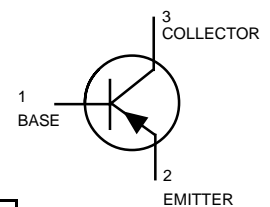
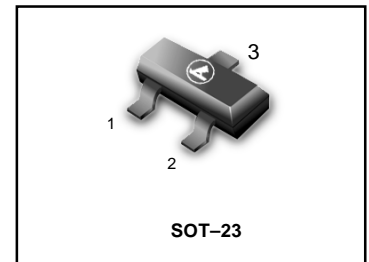
● THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Power Dissipation FR-5 Board,(Note 1.)@Ta = 25°C	PD	225	mW
Derate above 25°C		1.8	°C/W
Thermal Resistance – Junction-to-Ambient	R _{θJA}	556	°C/W
Total Power Dissipation Alumina Substrate,(Note 2.)@Ta = 25°C	PD	300	mW
Derate above 25°C		2.4	°C/W
Thermal Resistance, Junction-to-Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

LMBTA56LT1G S-LMBTA56LT1G



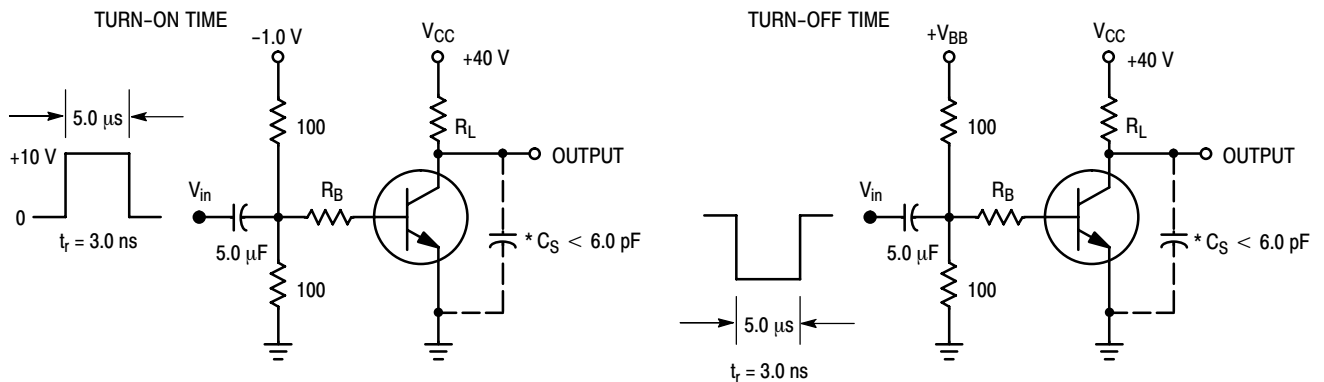
LMBTA56LT1G,S-LMBTA56LT1G

● ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage(Note 3) (I _C = - 1 mA _{dc} , I _B = 0)	V _{BR(CEO)}	-80	–	–	V
Emitter–Base Breakdown Voltage (I _E = -100 μA _{dc} , I _C = 0)	V _{BR(EBO)}	-4	–	–	V
Collector Cutoff Current (V _{CE} = - 60 V _{dc} , I _E = 0)	I _{CES}	–	–	-0.1	μA
Collector Cutoff Current (V _{CB} = - 80 V _{dc} , I _E = 0)	I _{CBO}	–	–	-0.1	μA
DC Current Gain (I _C = -10 mA _{dc} , V _{CE} = -1 V _{dc}) (I _C = -100 mA _{dc} , V _{CE} = -1 V _{dc})	h _{FE}	100 100	– –	– –	
Collector–Emitter Saturation Voltage (I _C = -100mA _{dc} , I _B = -10 mA _{dc})	V _{CE(sat)}	–	–	-0.25	V
Base–Emitter On Voltage (I _C = -100mA _{dc} , V _{CE} = -1 mA _{dc})	V _{BE(on)}	–	–	-1.20	V
Current–Gain — Bandwidth Product(Note 4.) (I _C = -100mA _{dc} , V _{CE} = -1V _{dc} , f = 100MHz)	f _T	50	–	–	MHz

3. Pulse Test: Pulse Width ≅ 300 μs, Duty Cycle ≅ 2.0%.

4. f_T is defined as the frequency at which |h_{fe}| extrapolates to unity.



*Total Shunt Capacitance of Test Jig and Connectors For PNP Test Circuits, Reverse All Voltage Polarities

Fig. 1 Switching Time Test Circuits

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ELRCTRICAL CHARACTERISTICS CURVES

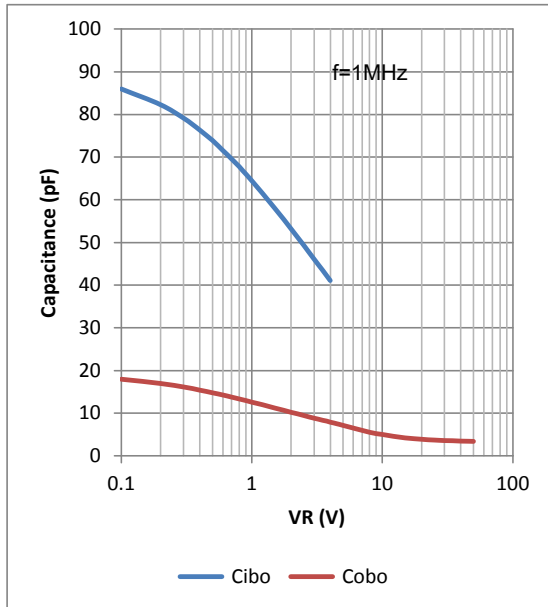


FIG. 2 Capacitance

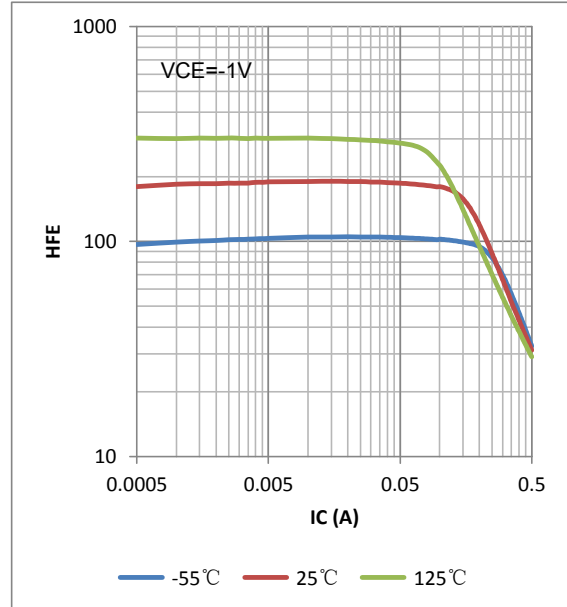


FIG.3 DC Current Gain

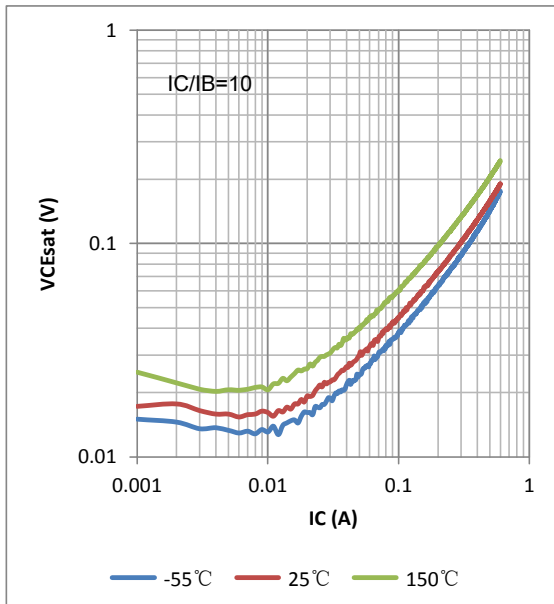


FIG.4 Collector Emitter Saturation Voltage vs. Collector Current

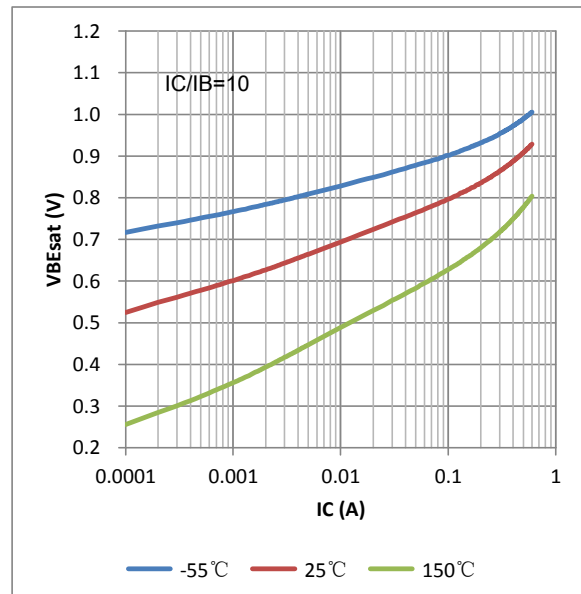


FIG.5 Base Emitter Saturation Voltage vs. Collector Current

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ELRCTRICAL CHARACTERISTICS CURVES

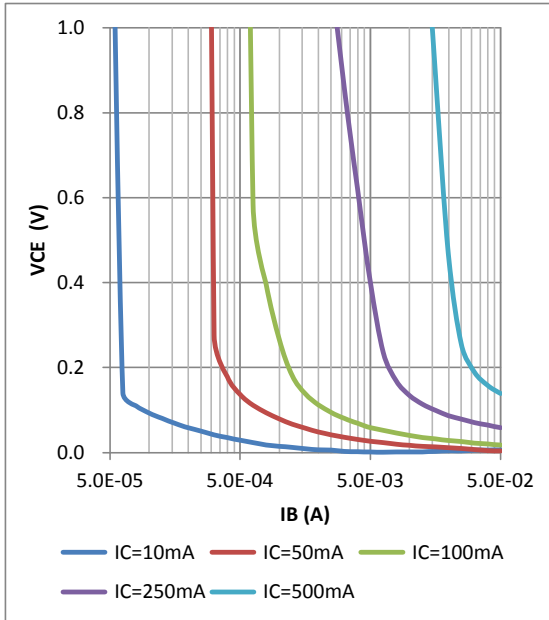


FIG.6 Collector Saturation Region

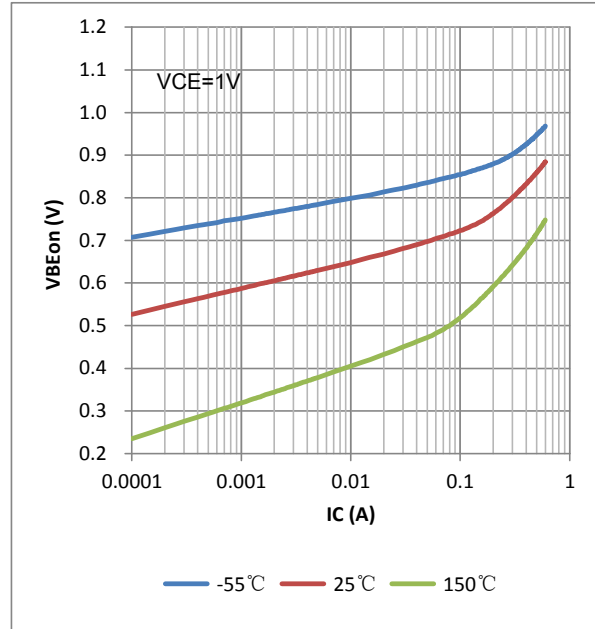


FIG.7 Base Emitter Voltage vs. Collector Current

