

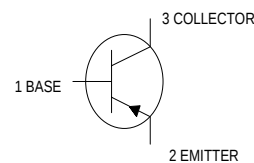
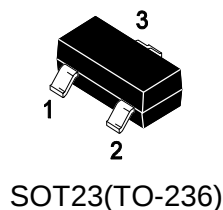
General Purpose Transistors

PNP Silicon

FEATURES:

- We declare that the material of product is ROHS compliant and halogen free.

Circuit Diagram & Pin Configuration:



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
TMBT2907A	2F	3000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	-60	V
Collector–Base Voltage	VCBO	-60	V
Emitter–Base Voltage	VEBO	-5	V
Collector Current — Continuous	IC	-600	mA

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C Derate above 25°C	PD	225 1.8	mW mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	RθJA	556	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

1. FR-5 = 1.0×0.75×0.062 in.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = -10 mA, IB = 0)	VBR(CEO)	-60	-	-	V
Collector–Base Breakdown Voltage (IC = -10 μ A, IE = 0)	VBR(CBO)	-60	-	-	V
Emitter–Base Breakdown Voltage (IE = -10 μ A, IC = 0)	VBR(EBO)	-5	-	-	V
Collector Cutoff Current (VCE = -30V, VBE = -0.5V)	ICEX	-	-	-50	nA
Collector Cutoff Current (VCB = -50 V, IE = 0)	ICBO	-	-	-0.01	μ A
Collector Cutoff Current (VCB = -50 V, IE = 0, TA = 125°C)	ICBO	-	-	-10	μ A
Base Cutoff Current (VCE = -30V, VBE = -0.5V)	IBL	-	-	-50	nA

ON CHARACTERISTICS (Note 2.)

DC Current Gain (IC = -0.1 mA, VCE = -10 V)	HFE	75	-	-	
(IC = -1.0 mA, VCE = -10 V)		100	-	-	
(IC = -10 mA, VCE = -10 V)		100	-	-	
(IC = -150 mA, VCE = -10 V)		100	-	300	
(IC = -500 mA, VCE = -10 V)		50	-	-	
Collector–Emitter Saturation Voltage (IC = -150 mA, IB = -15 mA)	VCE(sat)	-	-	-0.4	V
(IC = -500 mA, IB = -50 mA)		-	-	-1.6	
Base–Emitter Saturation Voltage (IC = -150 mA, IB = -15 mA)	VBE(sat)	-	-	-1.3	V
(IC = -500 mA, IB = -50 mA)		-	-	-2.6	

SMALL–SIGNAL CHARACTERISTICS

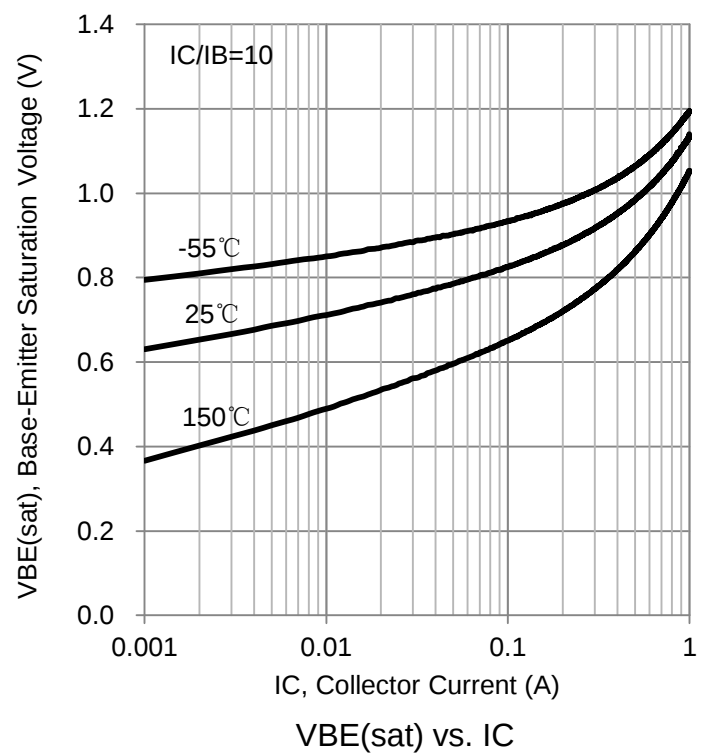
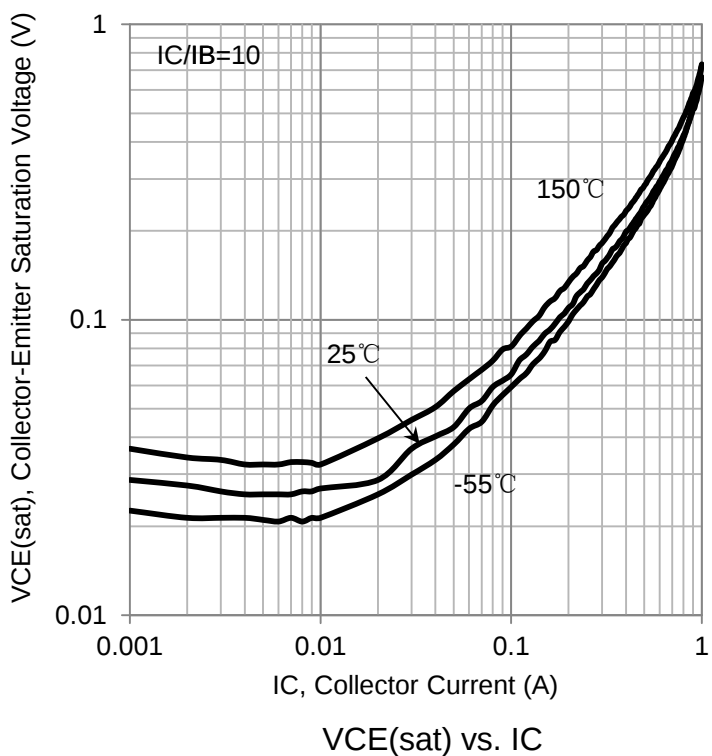
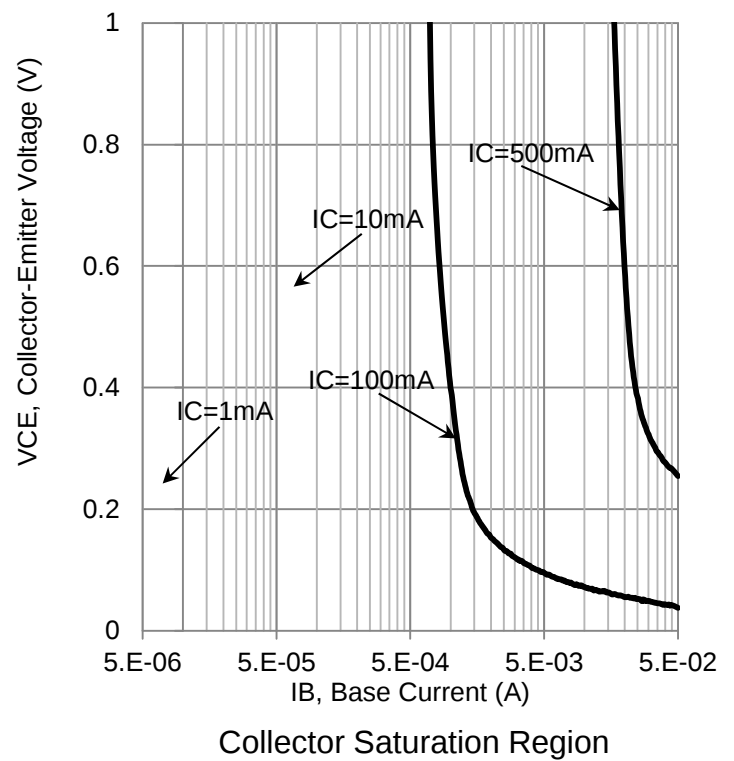
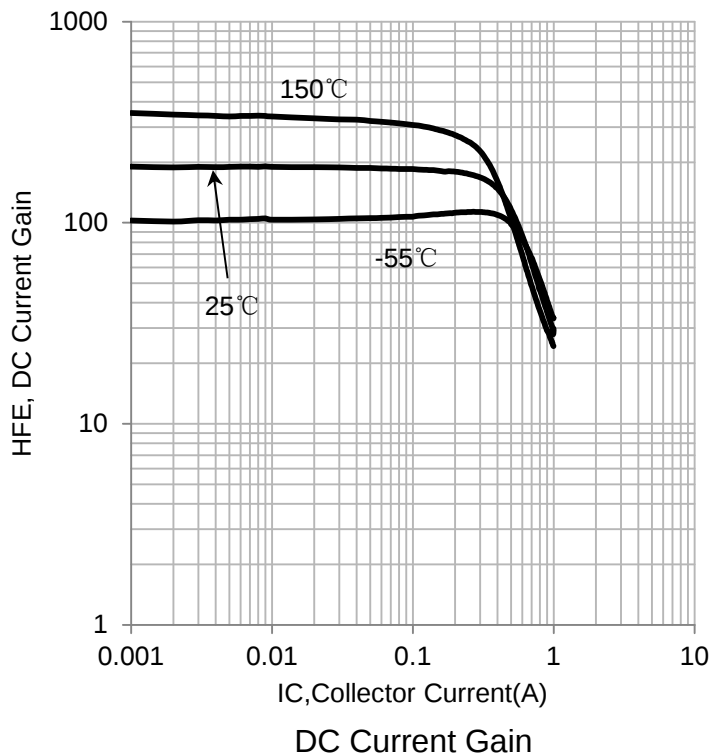
Current–Gain — Bandwidth Product (IC = -50mA, VCE= -20V, f = 100MHz)	fT	200	-	-	MHz
Output Capacitance (VCB = -10 V, IE = 0, f = 1.0 MHz)	Cobo	-	-	8	pF
Input Capacitance (VEB = -2 V, IC = 0, f = 1.0 MHz)	Cibo	-	-	30	pF

SWITCHING CHARACTERISTICS

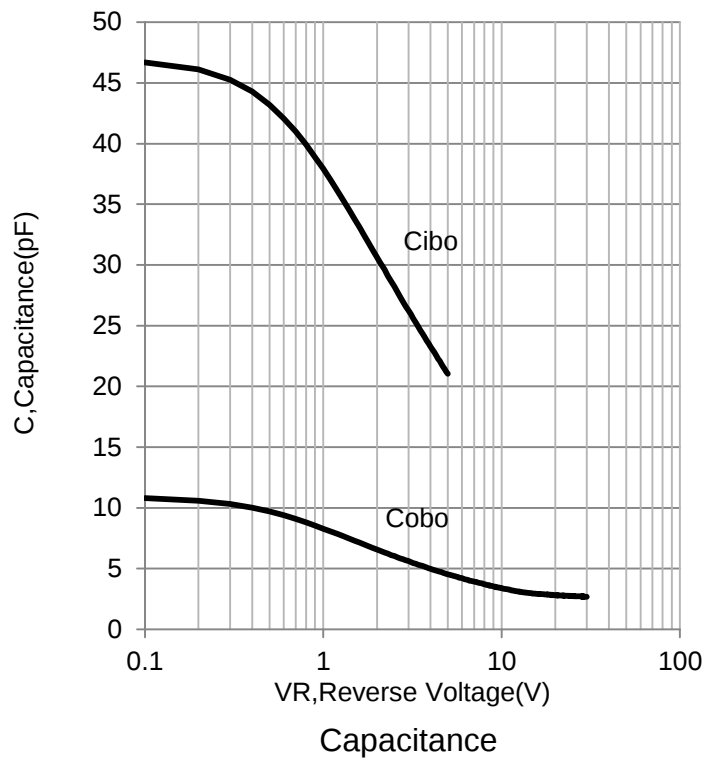
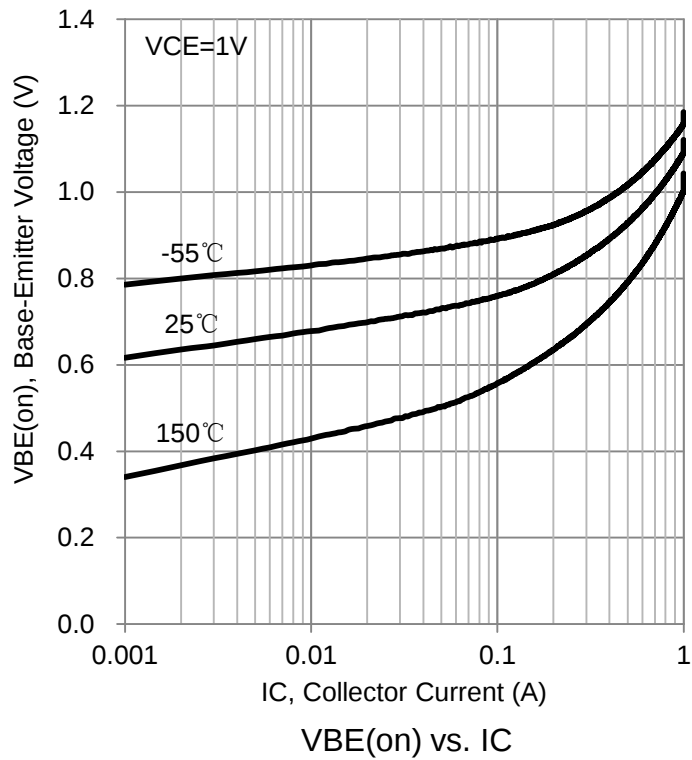
Turn–On Time	(VCC = -30 V, IC = -150 mA, IB1 = -15 mA)	ton	-	-	45	ns
Delay Time		td	-	-	10	
Rise Time		tr	-	-	40	
Storage Time	(VCC = -6 V, IC = -150 mA, IB1 = IB2 = -15 mA)	ts	-	-	225	
Fall Time		tf	-	-	60	
Turn–Off Time		toff	-	-	280	

2.Pulse Test: Pulse Width $\leq 300 \mu$ s, Duty Cycle $\leq 2.0\%$.

6. ELECTRICAL CHARACTERISTICS CURVES



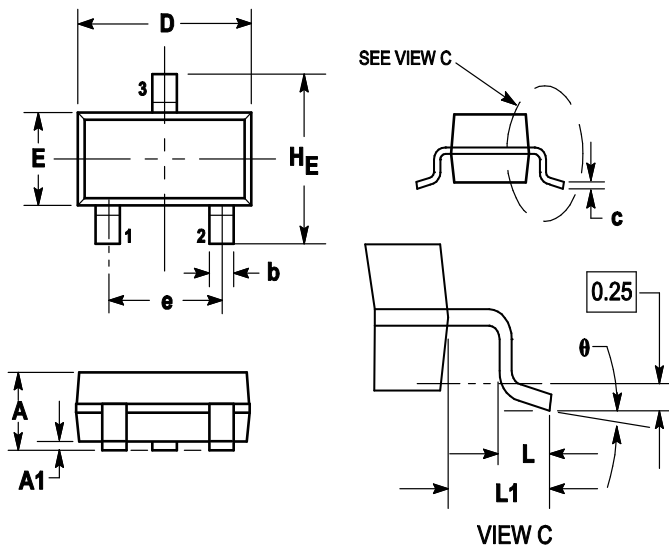
6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

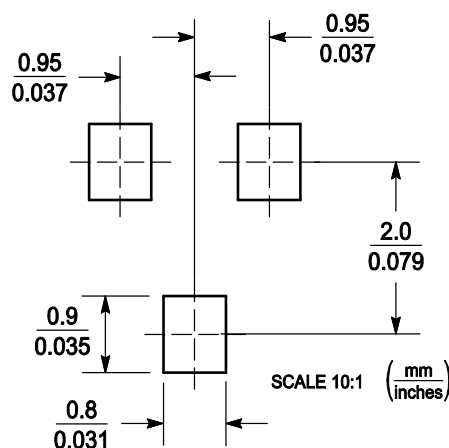
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H _E	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

8.SOLDERING FOOTPRINT



NOTICE

The information presented in this document is for reference only. Tinysemi reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tinysemi elec Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.tinysemi.com> , or consult your nearest Tinysemi' s sales office for further assistance.