

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[ON Semiconductor](#)
[MMBT2132T3](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

MMBT2132T3

General Purpose Transistors

NPN Bipolar Junction Transistor

Features

- Pb-Free Package is Available

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	30	V
Collector-Base Voltage	V _{CBO}	40	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Collector Current	I _C	700	mA
Base Current	I _B	350	mA
Total Power Dissipation @ T _C = 25°C	P _D	342	mW
Total Power Dissipation @ T _C = 85°C	P _D	178	mW
Thermal Resistance, Junction-to-Ambient (Note 1)	R _{θJA}	366	°C/W
Total Power Dissipation @ T _C = 25°C	P _D	665	mW
Total Power Dissipation @ T _C = 85°C	P _D	346	mW
Thermal Resistance, Junction-to-Ambient (Note 2)	R _{θJA}	188	°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

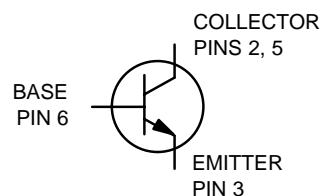
- Minimum FR-4 or G-10 PCB, Operating to Steady State.
- Mounted onto a 2" square FR-4 Board (1" sq 2 oz Cu 0.06" thick single sided), Operating to Steady State.



ON Semiconductor®

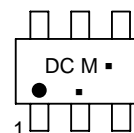
http://onsemi.com

0.7 AMPS
30 VOLTS – V_{(BR)CEO}
342 mW



TSOP-6/SC-74
CASE 318F
STYLE 2

MARKING DIAGRAM



DC = Specific Device Code
 M = Date Code*
 ■ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
MMBT2132T3	TSOP-6	10,000/Tape & Reel
MMBT2132T3G	TSOP-6 (Pb-Free)	10,000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

MMBT2132T3

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Base Breakdown Voltage ($I_C = 100 \mu\text{A}$)	$V_{(BR)CBO}$	40	-	-	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 10 \text{mA}$)	$V_{(BR)CEO}$	30	-	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 100 \mu\text{A}$)	$V_{(BR)EBO}$	5.0	-	-	Vdc
Collector Cutoff Current ($V_{CB} = 25 \text{Vdc}, I_E = 0 \text{A}$) ($V_{CB} = 25 \text{Vdc}, I_E = 0 \text{A}, T_A = 125^\circ\text{C}$)	I_{CBO}	-	-	1.0 10	μA
Emitter Cutoff Current ($V_{EB} = 5.0 \text{Vdc}, I_C = 0 \text{A}$)	I_{EBO}	-	-	10	μA
ON CHARACTERISTICS					
DC Current Gain ($V_{CE} = 3.0 \text{Vdc}, I_C = 100 \text{mA}$)	h_{FE}	150	-	-	Vdc
Collector-Emitter Saturation Voltage ($I_C = 500 \text{mA}, I_B = 50 \text{mA}$)	$V_{CE(sat)}$	-	-	0.25	Vdc
Collector-Emitter Saturation Voltage ($I_C = 700 \text{mA}, I_B = 70 \text{mA}$)	$V_{CE(sat)}$	-	-	0.4	Vdc
Base-Emitter Saturation Voltage ($I_C = 700 \text{mA}, I_B = 70 \text{mA}$)	$V_{BE(sat)}$	-	-	1.1	Vdc
Collector-Emitter Saturation Voltage ($I_C = 700 \text{mA}, V_{CE} = 1.0 \text{Vdc}$)	$V_{BE(on)}$	-	-	1.0	Vdc

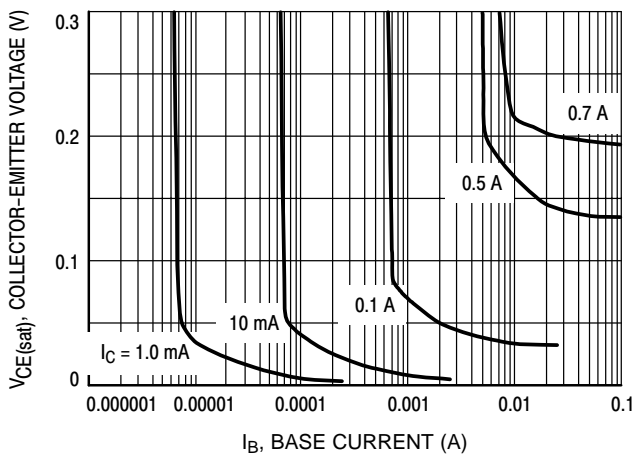


Figure 1. Collector Saturation Region

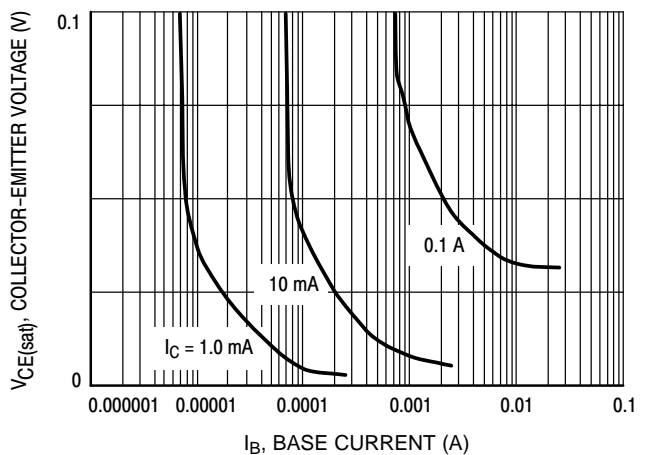


Figure 2. Collector Saturation Region

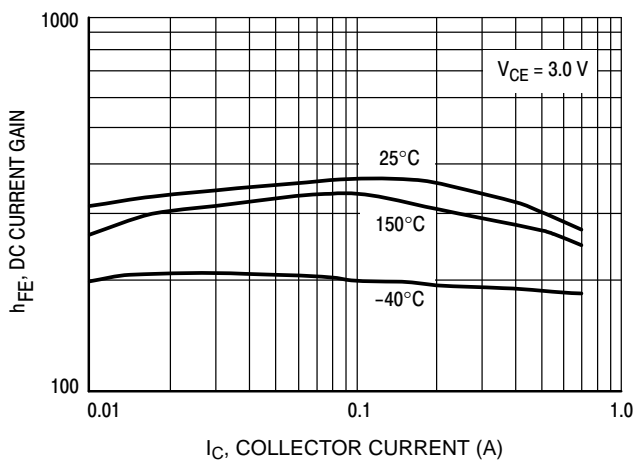


Figure 3. DC Current Gain

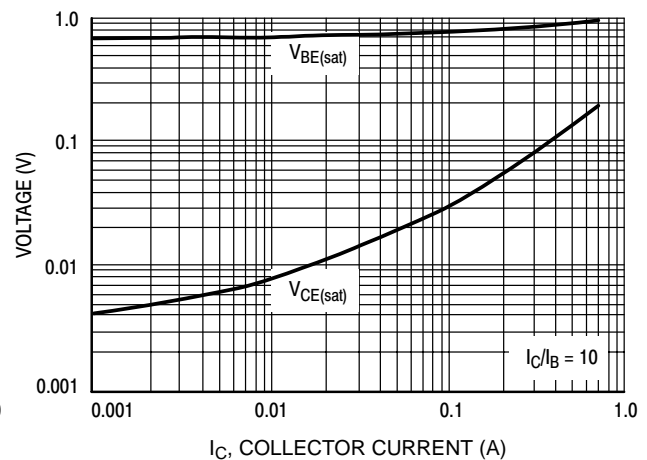


Figure 4. "ON" Voltages

MMBT2132T3

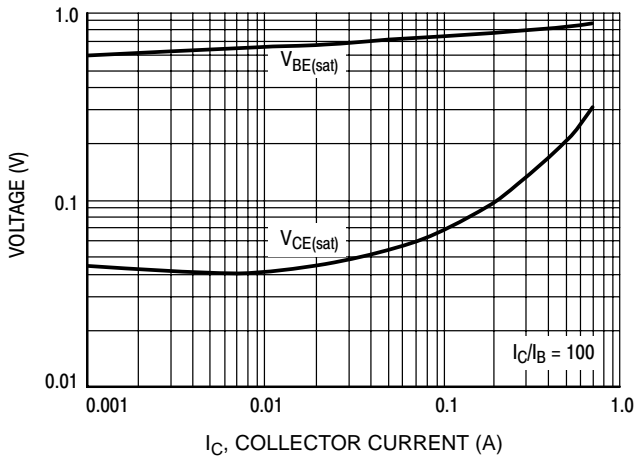


Figure 5. "ON" Voltages

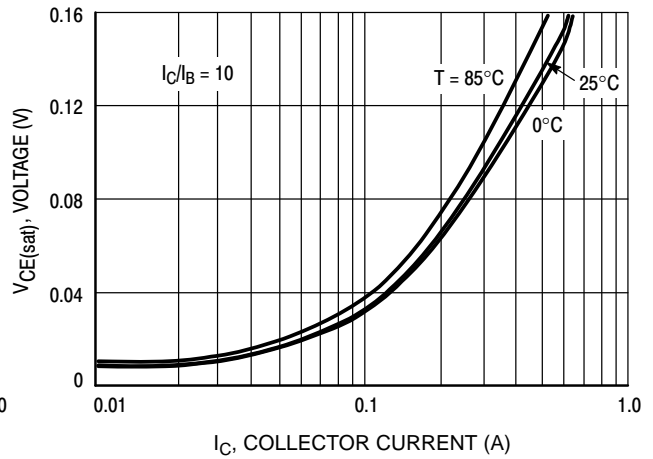


Figure 6. Collector-Emitter Saturation Voltage

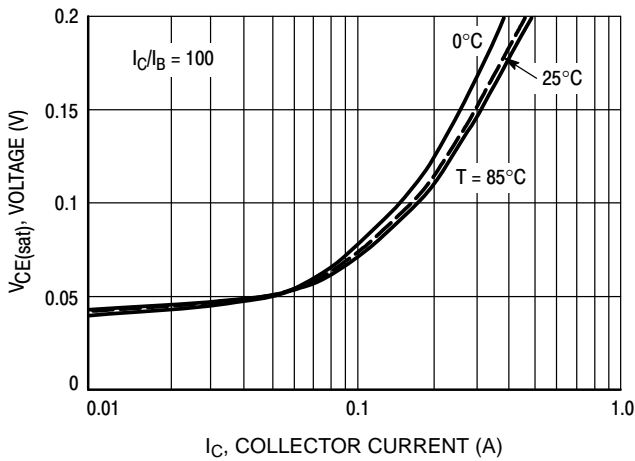


Figure 7. Collector-Emitter Saturation Voltage

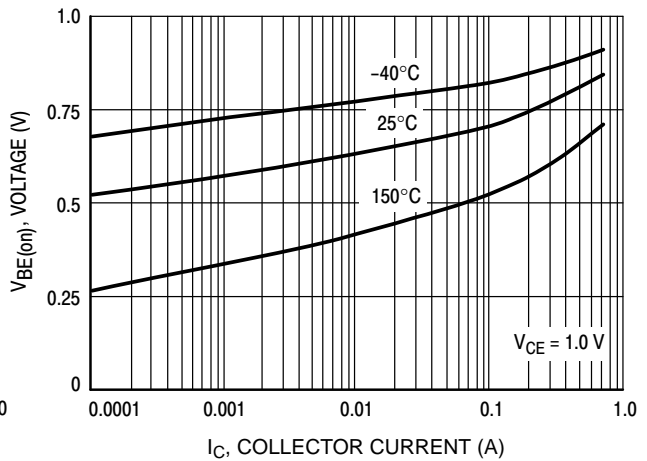


Figure 8. VBE(on) Voltage

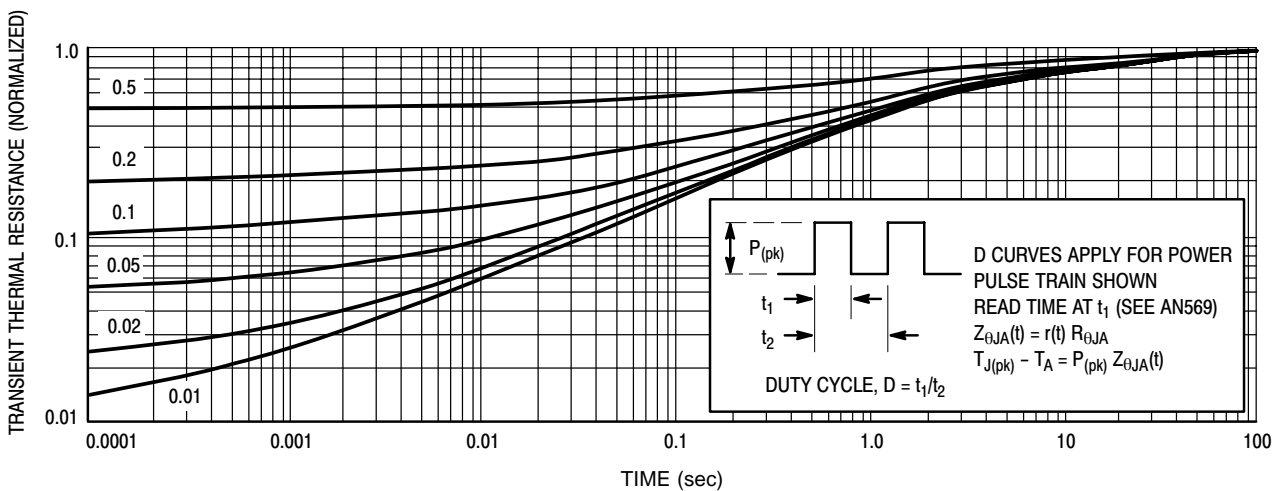
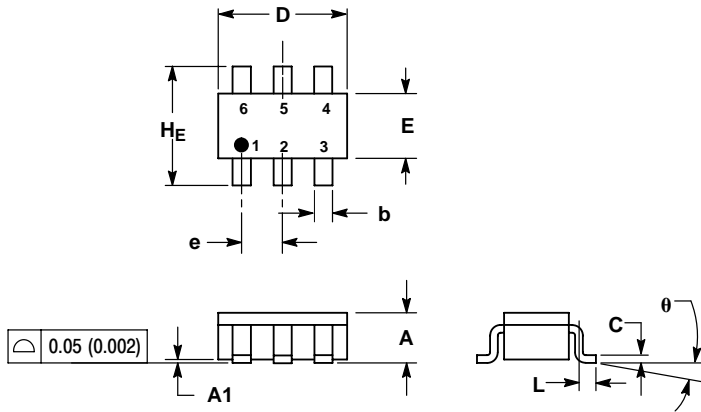


Figure 9. Thermal Response Curve

MMBT2132T3

PACKAGE DIMENSIONS

SC-74
CASE 318F-05
ISSUE L



NOTES:

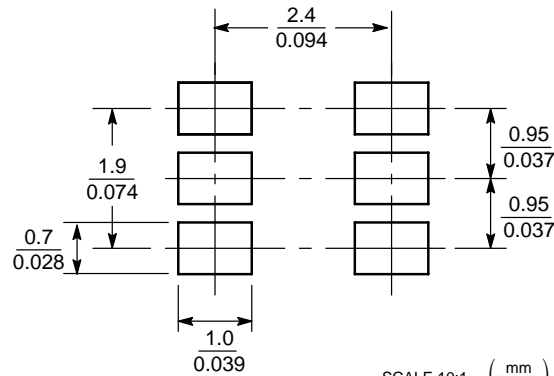
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318F-01, -02, -03 OBSOLETE. NEW STANDARD 318F-04.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.035	0.039	0.043
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.25	0.37	0.50	0.010	0.015	0.020
c	0.10	0.18	0.26	0.004	0.007	0.010
D	2.90	3.00	3.10	0.114	0.118	0.122
E	1.30	1.50	1.70	0.051	0.059	0.067
e	0.85	0.95	1.05	0.034	0.037	0.041
L	0.20	0.40	0.60	0.008	0.016	0.024
HE	2.50	2.75	3.00	0.099	0.108	0.118
θ	0°	-	10°	0°	-	10°

STYLE 2:

- PIN 1. NO CONNECTION
- 2. COLLECTOR
- 3. EMITTER
- 4. NO CONNECTION
- 5. COLLECTOR
- 6. BASE

SOLDERING FOOTPRINT*



SCALE 10:1 (mm/inches)

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 61312, Phoenix, Arizona 85082-1312 USA
Phone: 480-829-7710 or 800-344-3860 Toll Free USA/Canada
Fax: 480-829-7709 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada

Japan: ON Semiconductor, Japan Customer Focus Center
2-9-1 Kamimeguro, Meguro-ku, Tokyo, Japan 153-0051
Phone: 81-3-5773-3850

ON Semiconductor Website: <http://onsemi.com>

Order Literature: <http://www.onsemi.com/litorder>

For additional information, please contact your local Sales Representative.