ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage (I_C = 50 μAdc, I_E = 0)	$V_{(BR)CBO}$	50	–	–	Vdc
Collector-Emitter Breakdown Voltage (I_C = 1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	50	–	–	Vdc
Emitter-Base Breakdown Voltage (I_E = 50 μAdc, I_E = 0)	$V_{(BR)EBO}$	7.0	–	–	Vdc
Collector-Base Cutoff Current (V_{CB} = 30 Vdc, I_E = 0)	I_{CBO}	–	–	0.5	μA
Emitter-Base Cutoff Current (V_{EB} = 4.0 Vdc, I_B = 0)	I_{EBO}	–	–	0.5	μA
Collector-Emitter Saturation Voltage (Note 2) (I_C = 50 mAdc, I_B = 5.0 mAdc)	$V_{CE(sat)}$	–	–	0.4	Vdc
DC Current Gain (Note 2) (V_{CE} = 6.0 Vdc, I_C = 1.0 mAdc) 2SC5658M3T5G (V_{CE} = 6.0 Vdc, I_C = 1.0 mAdc) 2SC5658RM3T5G	h_{FE}	 120 215	 – –	 560 375	–
Transition Frequency (V_{CE} = 12 Vdc, I_C = 2.0 mAdc, f = 30 MHz)	f_T	–	180	–	MHz
Output Capacitance (V_{CB} = 12 Vdc, I_C = 0 Adc, f = 1.0 MHz)	C_{OB}	–	2.0	–	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
*Include NSV−prefix devices where applicable.
2. Pulse Test: Pulse Width ≤ 300 μs, D.C. ≤ 2%.

TYPICAL ELECTRICAL CHARACTERISTICS

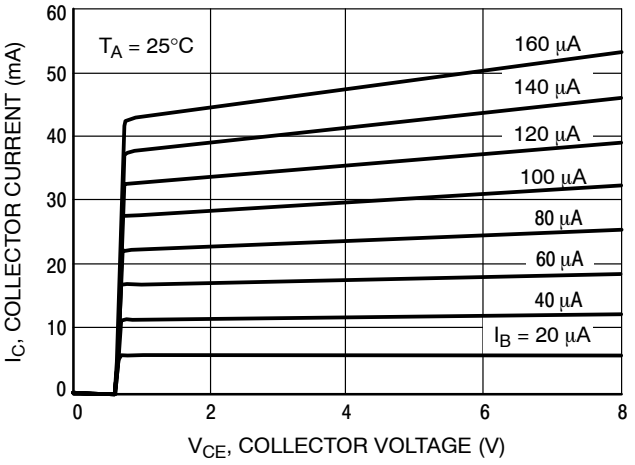


Figure 1. $I_C - V_{CE}$

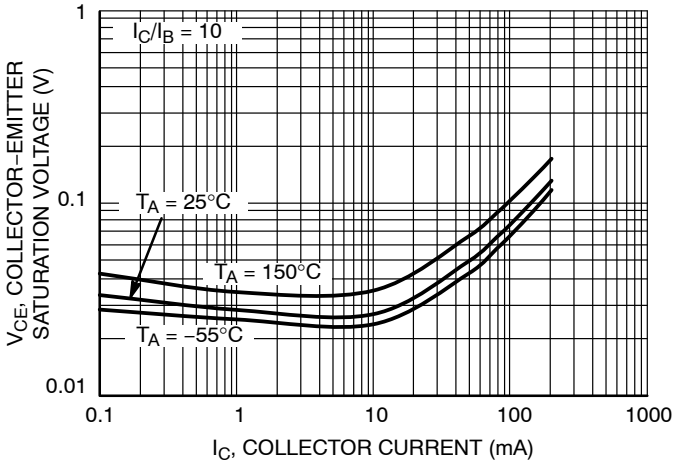


Figure 2. Collector Emitter Saturation Voltage vs. Collector Current

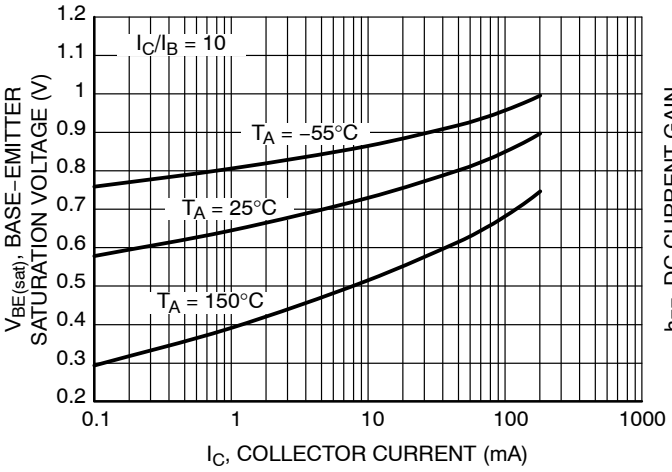


Figure 3. Base Emitter Saturation Voltage vs. Collector Current

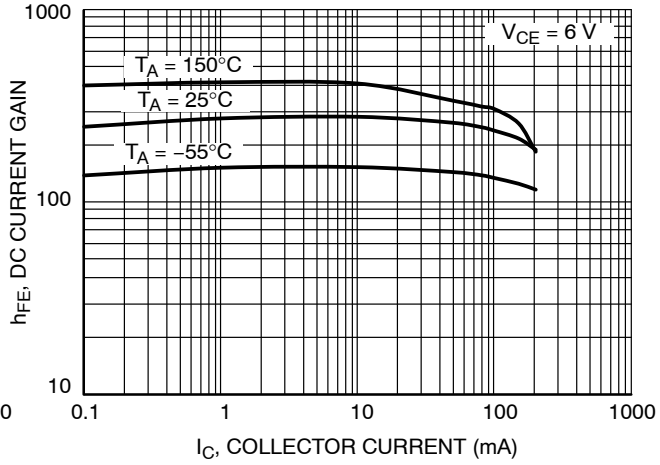


Figure 4. DC Current Gain vs. Collector Current

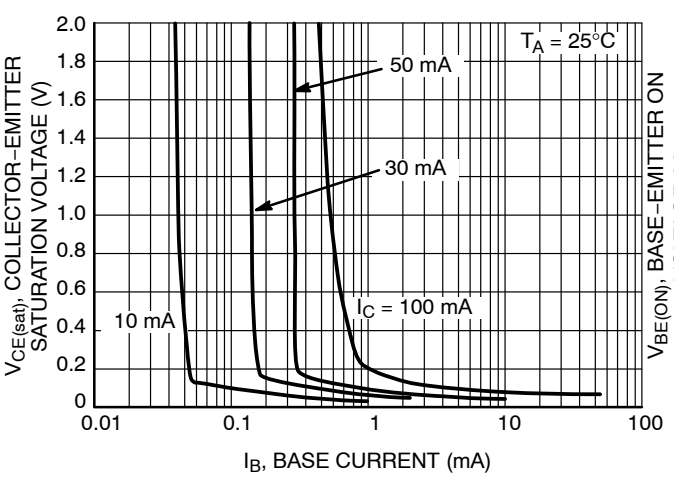


Figure 5. Saturation Region

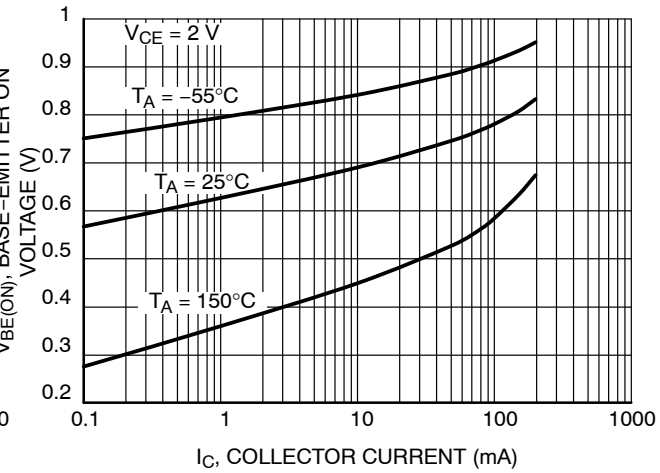


Figure 6. Base−Emitter Turn−ON Voltage vs. Collector Current

TYPICAL ELECTRICAL CHARACTERISTICS

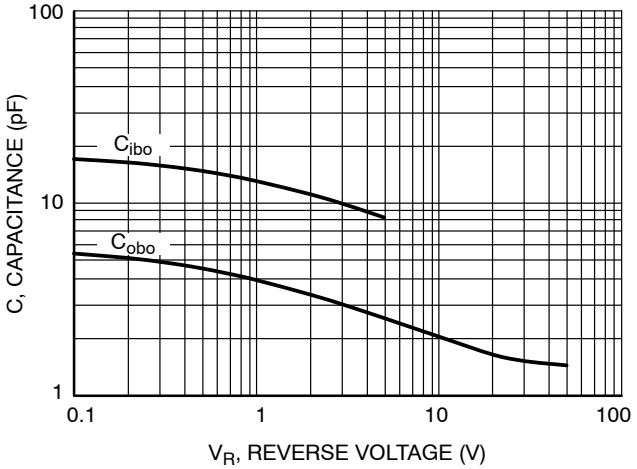


Figure 7. Capacitance

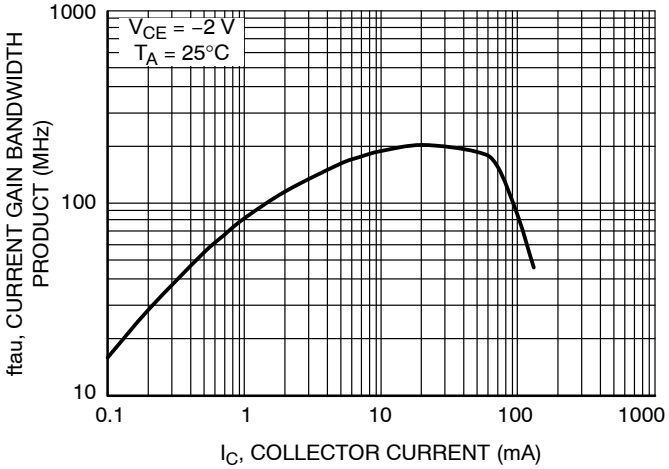


Figure 8. Current Gain Bandwidth Product vs. Collector Current

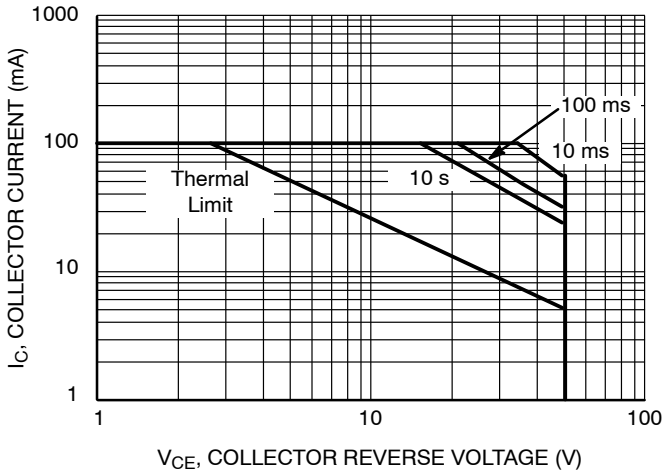


Figure 9. Safe Operating Area

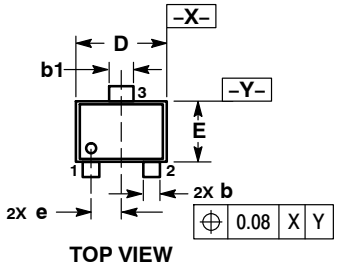
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®

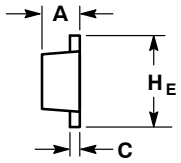
SOT−723
CASE 631AA−01
ISSUE D

DATE 10 AUG 2009

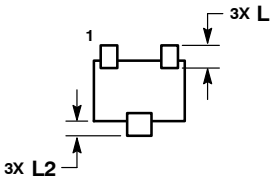
SCALE 4:1



TOP VIEW



SIDE VIEW



BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
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.

	MILLIMETERS		
DIM	MIN	NOM	MAX
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
C	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H E	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25

STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

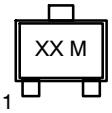
STYLE 2:
PIN 1. ANODE
2. N/C
3. CATHODE

STYLE 3:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. GATE
2. SOURCE
3. DRAIN

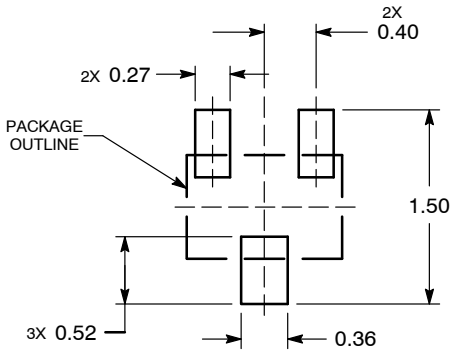
GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G”, may or not be present.

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

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

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