

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

MUN5111DW1T1 Series

Preferred Devices

Dual Bias Resistor Transistors

PNP Silicon Surface Mount Transistors with Monolithic Bias Resistor Network

The BRT (Bias Resistor Transistor) contains a single transistor with a monolithic bias network consisting of two resistors; a series base resistor and a base-emitter resistor. These digital transistors are designed to replace a single device and its external resistor bias network. The BRT eliminates these individual components by integrating them into a single device. In the MUN5111DW1T1 series, two BRT devices are housed in the SOT-363 package which is ideal for low-power surface mount applications where board space is at a premium.

- Simplifies Circuit Design
- Reduces Board Space
- Reduces Component Count
- Available in 8 mm, 7 inch/3000 Unit Tape and Reel

MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted, common for Q_1 and Q_2)

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	Vdc
Collector-Emitter Voltage	V_{CEO}	-50	Vdc
Collector Current	I_C	-100	mAdc

THERMAL CHARACTERISTICS

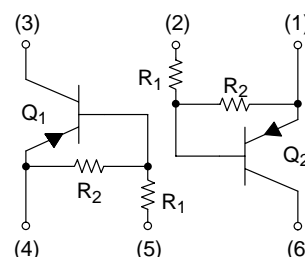
Characteristic (One Junction Heated)	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	187 (Note 1.) 256 (Note 2.) 1.5 (Note 1.) 2.0 (Note 2.)	mW mW/ $^\circ\text{C}$
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	670 (Note 1.) 490 (Note 2.)	$^\circ\text{C}/\text{W}$
Characteristic (Both Junctions Heated)	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	250 (Note 1.) 385 (Note 2.) 2.0 (Note 1.) 3.0 (Note 2.)	mW mW/ $^\circ\text{C}$
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	493 (Note 1.) 325 (Note 2.)	$^\circ\text{C}/\text{W}$
Thermal Resistance – Junction-to-Lead	$R_{\theta JL}$	188 (Note 1.) 208 (Note 2.)	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

1. FR-4 @ Minimum Pad
2. FR-4 @ 1.0 x 1.0 inch Pad



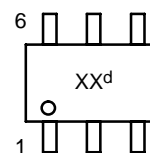
ON Semiconductor®

<http://onsemi.com>



SOT-363
CASE 419B
STYLE 1

MARKING DIAGRAM



XX = Specific Device Code
^d = Date Code
(See Page 2)

DEVICE MARKING INFORMATION

See specific marking information in the device marking table on page 2 of this data sheet.

Preferred devices are recommended choices for future use and best overall value.

MUN5111DW1T1 Series

DEVICE MARKING AND RESISTOR VALUES

Device	Package	Marking	R1 (K)	R2 (K)	Shipping
MUN5111DW1T1	SOT-363	0A	10	10	3000/Tape & Reel
MUN5112DW1T1	SOT-363	0B	22	22	3000/Tape & Reel
MUN5113DW1T1	SOT-363	0C	47	47	3000/Tape & Reel
MUN5114DW1T1	SOT-363	0D	10	47	3000/Tape & Reel
MUN5115DW1T1	SOT-363	0E	10	∞	3000/Tape & Reel
MUN5116DW1T1	SOT-363	0F	4.7	∞	3000/Tape & Reel
MUN5130DW1T1	SOT-363	0G	1.0	1.0	3000/Tape & Reel
MUN5131DW1T1	SOT-363	0H	2.2	2.2	3000/Tape & Reel
MUN5132DW1T1	SOT-363	0J	4.7	4.7	3000/Tape & Reel
MUN5133DW1T1	SOT-363	0K	4.7	47	3000/Tape & Reel
MUN5134DW1T1	SOT-363	0L	22	47	3000/Tape & Reel
MUN5135DW1T1	SOT-363	0M	2.2	47	3000/Tape & Reel
MUN5136DW1T1	SOT-363	0N	100	100	3000/Tape & Reel
MUN5137DW1T1	SOT-363	0P	47	22	3000/Tape & Reel

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, common for Q₁ and Q₂)

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

OFF CHARACTERISTICS

Collector-Base Cutoff Current (V _{CB} = -50 V, I _E = 0)	I _{CBO}	-	-	-100	nAdc
Collector-Emitter Cutoff Current (V _{CE} = -50 V, I _B = 0)	I _{CEO}	-	-	-500	nAdc
Emitter-Base Cutoff Current (V _{EB} = -6.0 V, I _C = 0)	MUN5111DW1T1	-	-	-0.5	mAdc
	MUN5112DW1T1	-	-	-0.2	
	MUN5113DW1T1	-	-	-0.1	
	MUN5114DW1T1	-	-	-0.2	
	MUN5115DW1T1	-	-	-0.9	
	MUN5116DW1T1	-	-	-1.9	
	MUN5130DW1T1	-	-	-4.3	
	MUN5131DW1T1	-	-	-2.3	
	MUN5132DW1T1	-	-	-1.5	
	MUN5133DW1T1	-	-	-0.18	
	MUN5134DW1T1	-	-	-0.13	
	MUN5135DW1T1	-	-	-0.2	
	MUN5136DW1T1	-	-	-0.05	
MUN5137DW1T1	-	-	-0.13		
Collector-Base Breakdown Voltage (I _C = -10 μA, I _E = 0)	V _{(BR)CBO}	-50	-	-	Vdc
Collector-Emitter Breakdown Voltage (Note 3.) (I _C = -2.0 mA, I _B = 0)	V _{(BR)CEO}	-50	-	-	Vdc

ON CHARACTERISTICS (Note 3.)

Collector-Emitter Saturation Voltage (I _C = -10 mA, I _E = -0.3 mA) (I _C = -10 mA, I _B = -5 mA) MUN5130DW1T1/MUN5131DW1T1 (I _C = -10 mA, I _B = -1 mA) MUN5115DW1T1/MUN5116DW1T1 MUN5132DW1T1/MUN5133DW1T1/MUN5134DW1T1	V _{CE(sat)}	-	-	-0.25	Vdc
--	----------------------	---	---	-------	-----

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

MUN5111DW1T1 Series

ALL MUN5111DW1T1 SERIES DEVICES

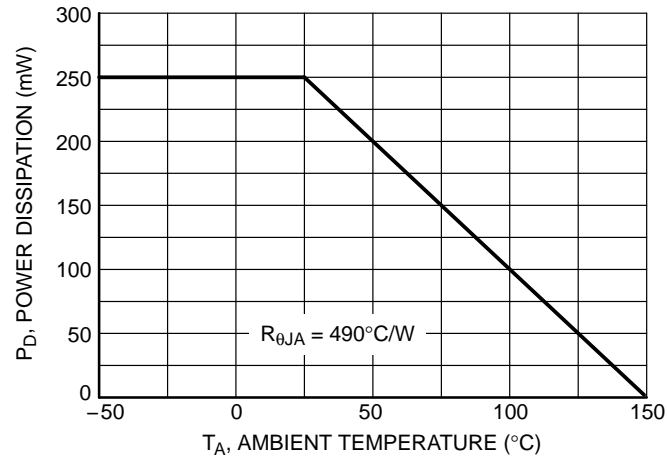


Figure 1. Derating Curve – ALL DEVICES

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5111DW1T1

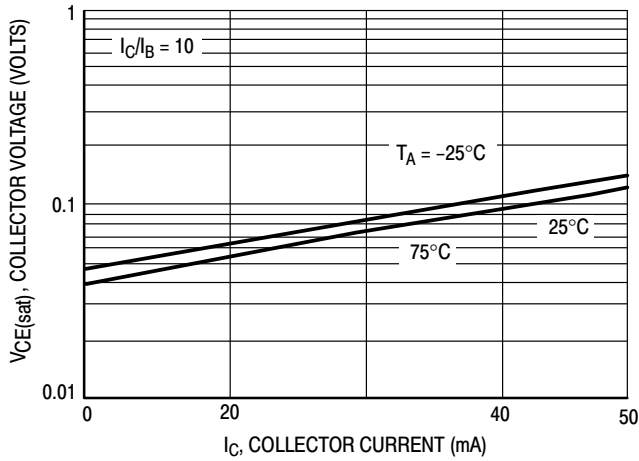


Figure 2. $V_{CE(sat)}$ versus I_C

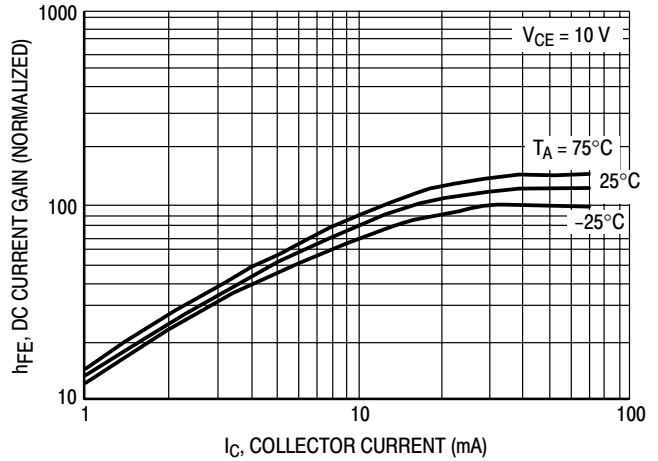


Figure 3. DC Current Gain

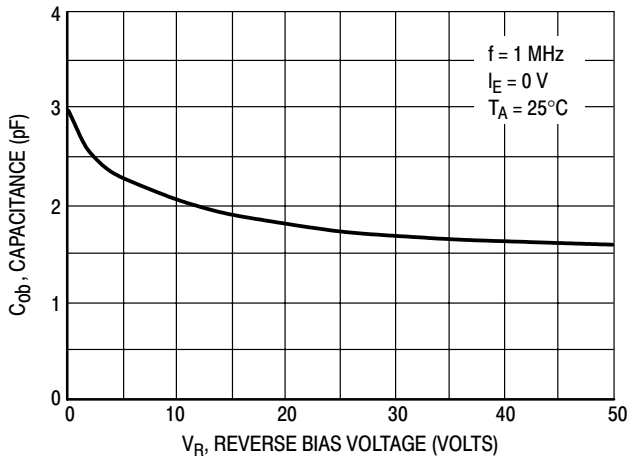


Figure 4. Output Capacitance

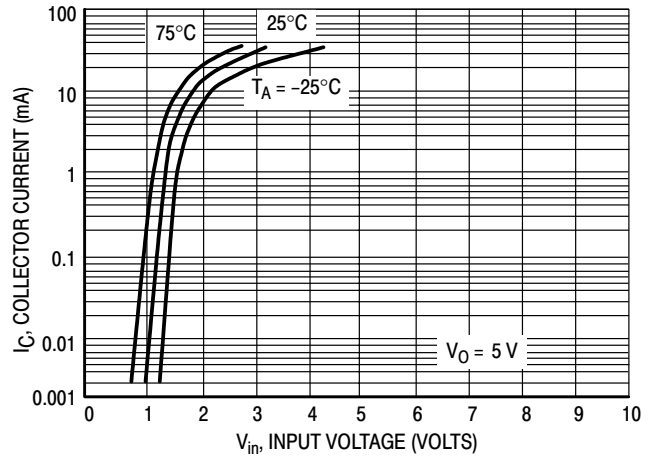


Figure 5. Output Current versus Input Voltage

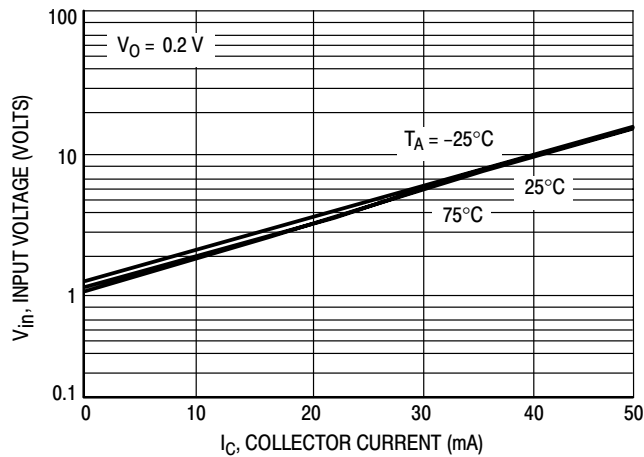


Figure 6. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5112DW1T1

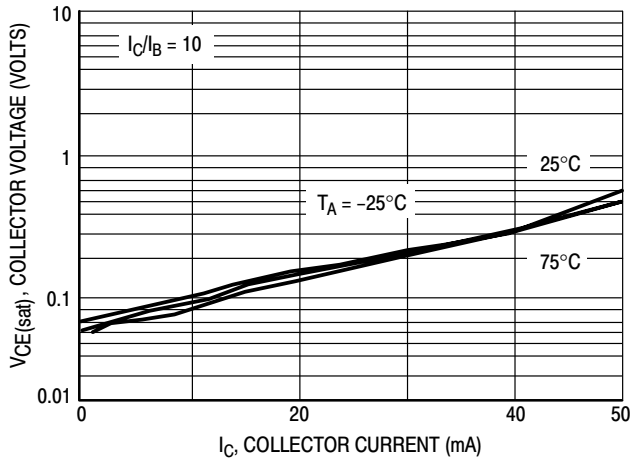


Figure 7. $V_{CE(sat)}$ versus I_C

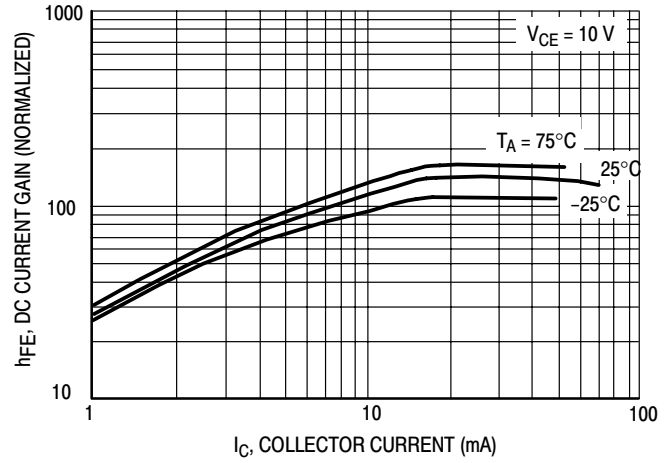


Figure 8. DC Current Gain

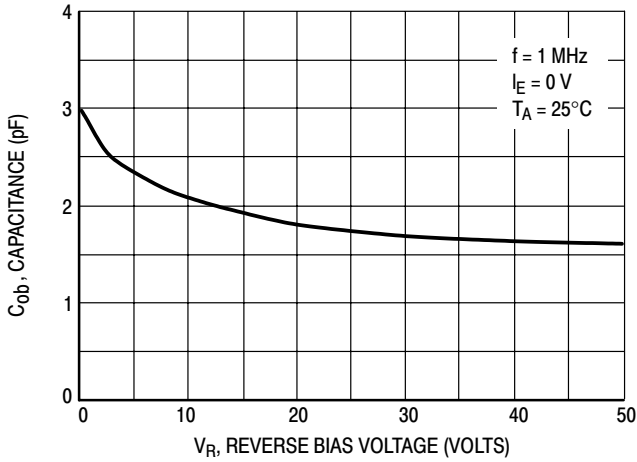


Figure 9. Output Capacitance

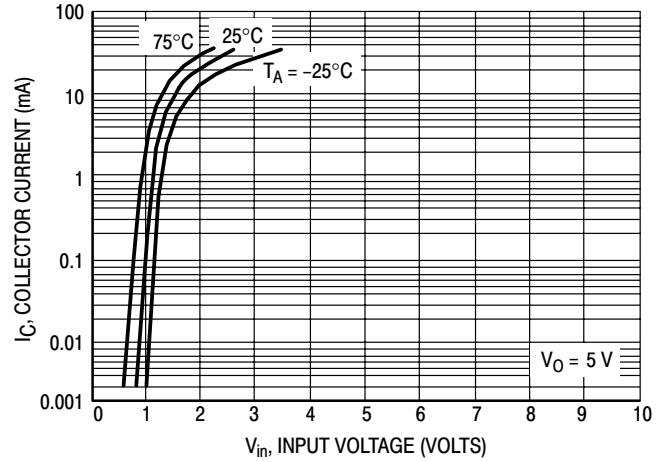


Figure 10. Output Current versus Input Voltage

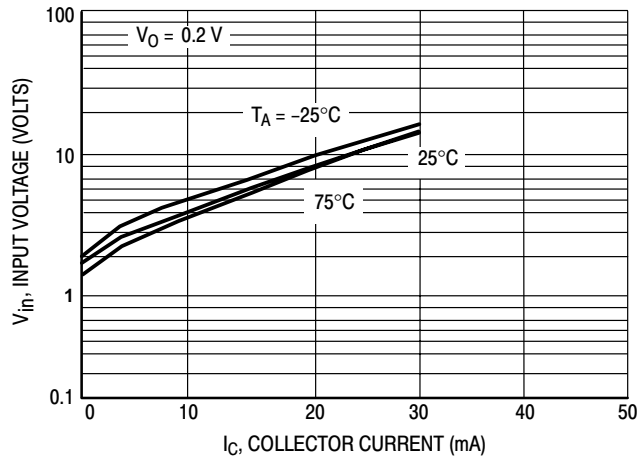


Figure 11. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5113DW1T1

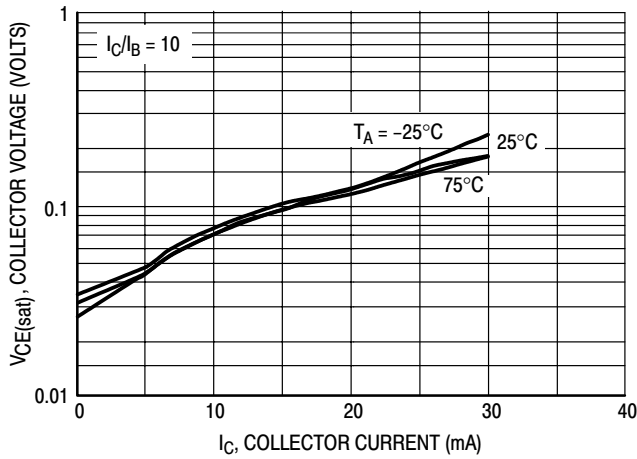


Figure 12. $V_{CE(sat)}$ versus I_C

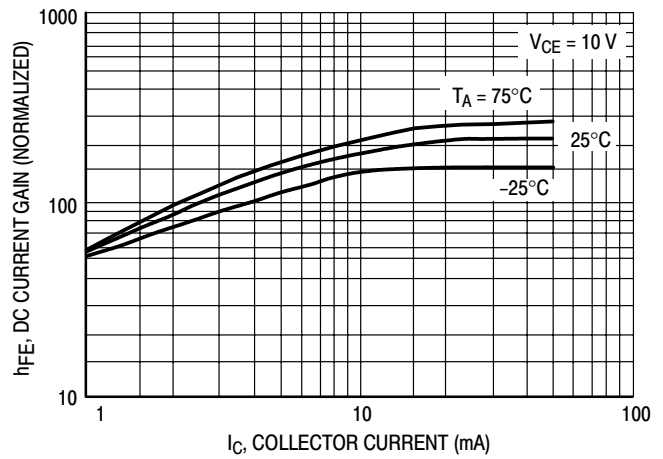


Figure 13. DC Current Gain

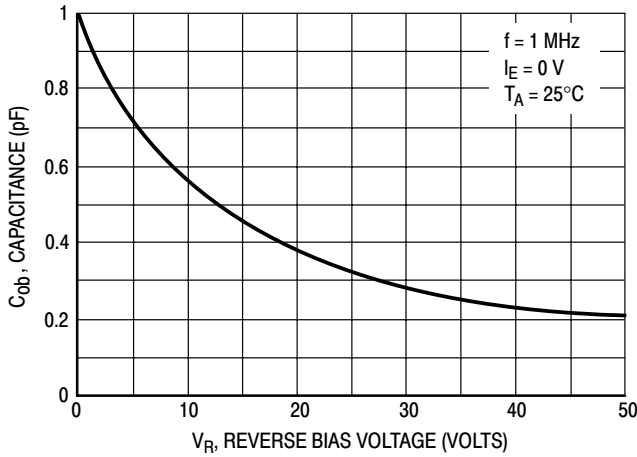


Figure 14. Output Capacitance

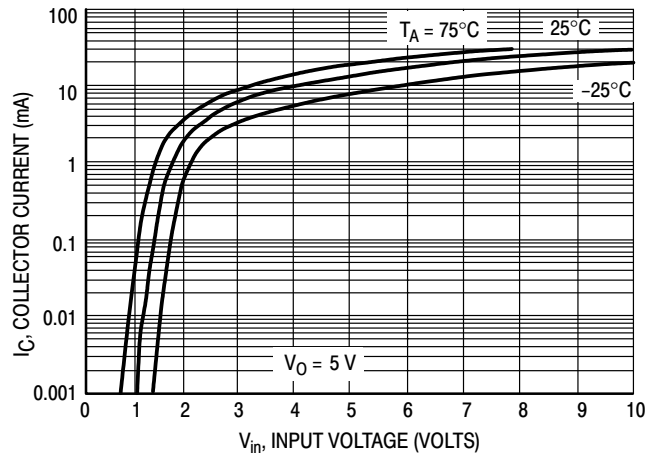


Figure 15. Output Current versus Input Voltage

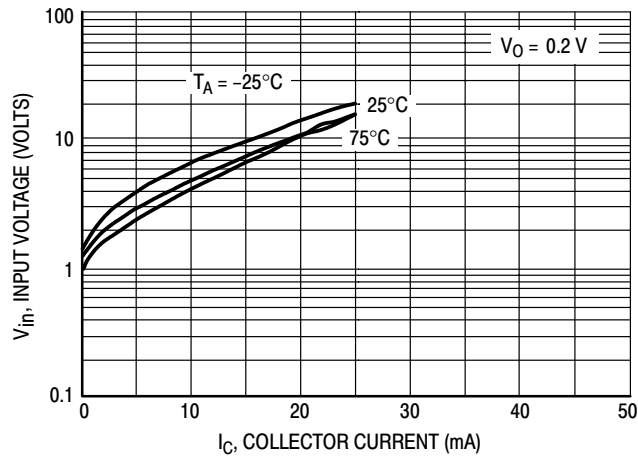


Figure 16. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5114DW1T1

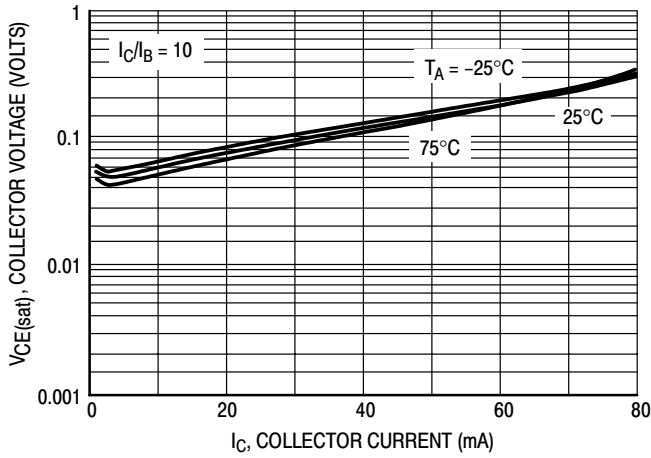


Figure 17. $V_{CE(sat)}$ versus I_C

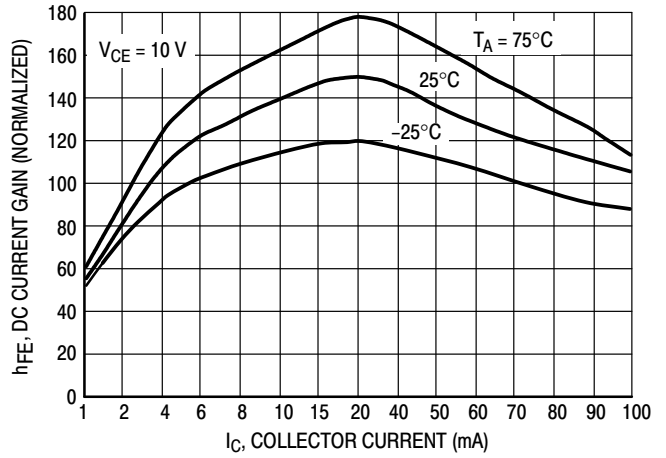


Figure 18. DC Current Gain

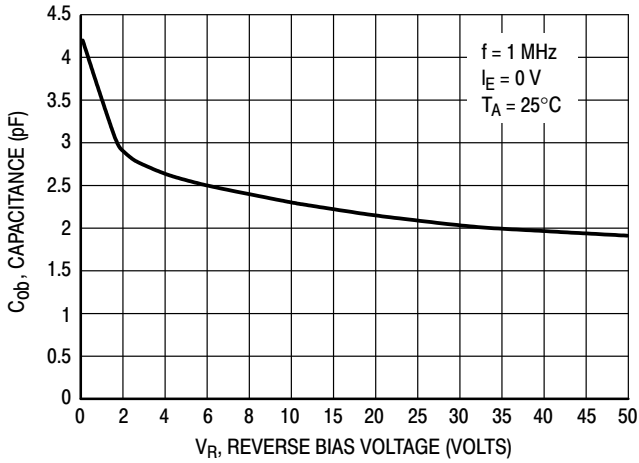


Figure 19. Output Capacitance

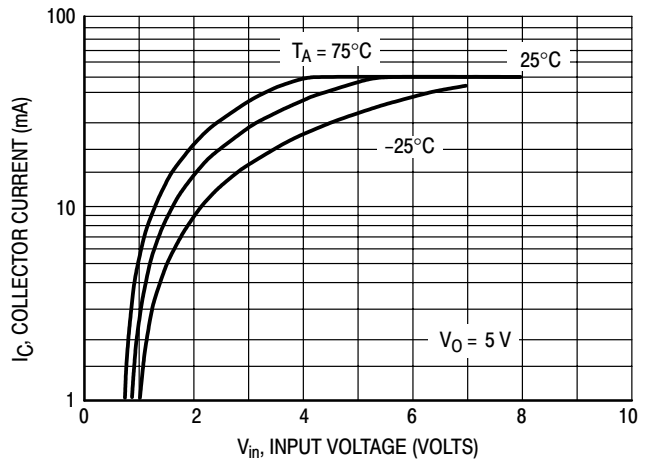


Figure 20. Output Current versus Input Voltage

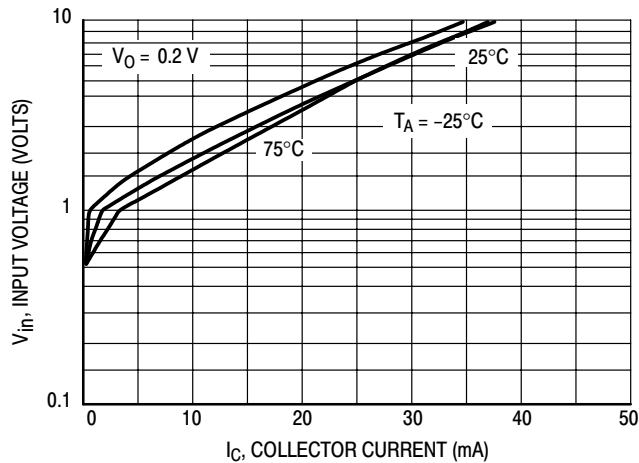


Figure 21. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5115DW1T1

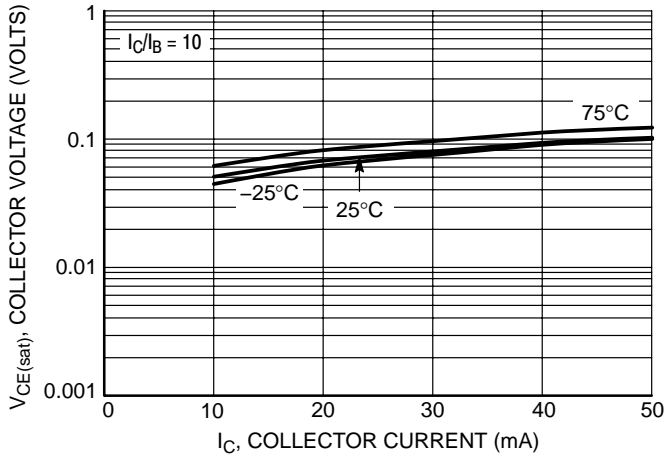


Figure 22. $V_{CE(sat)}$ versus I_C

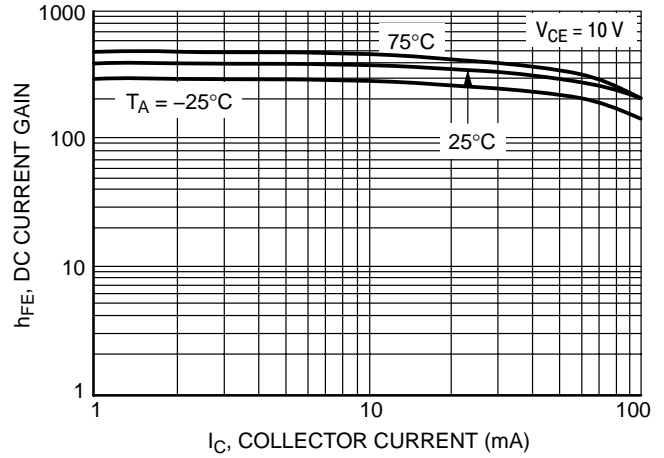


Figure 23. DC Current Gain

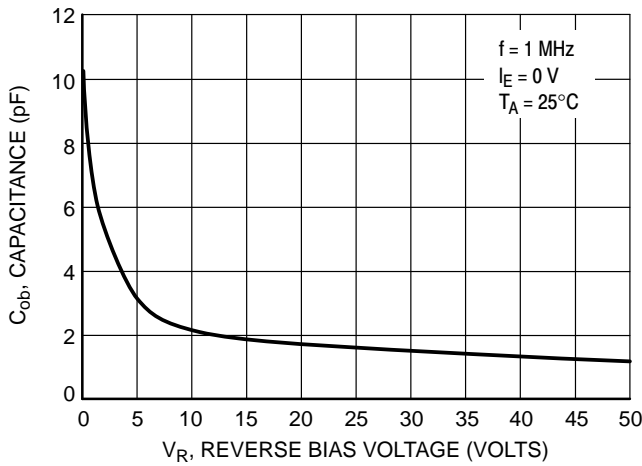


Figure 24. Output Capacitance

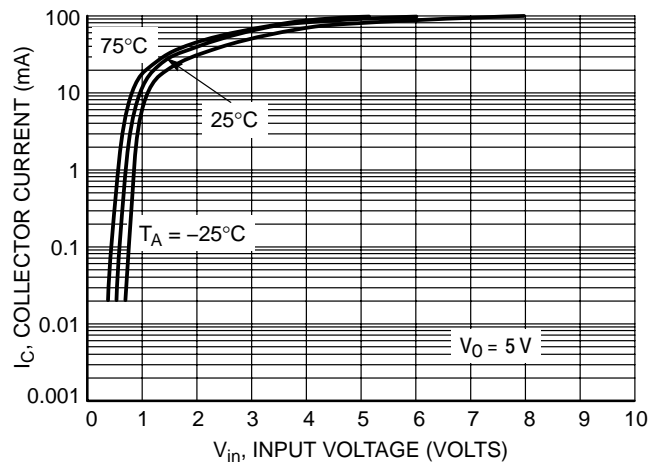


Figure 25. Output Current versus Input Voltage

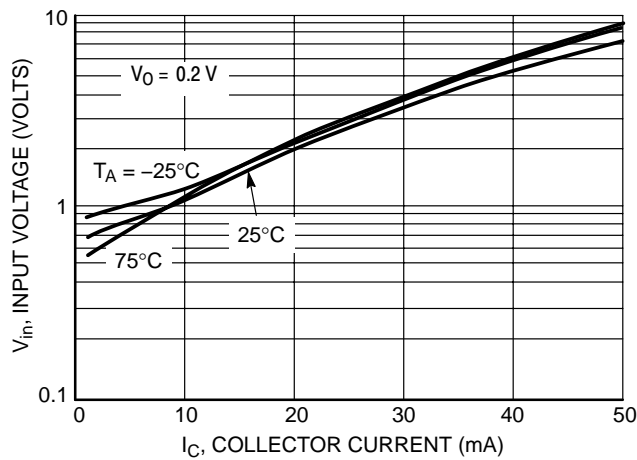


Figure 26. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5116DW1T1

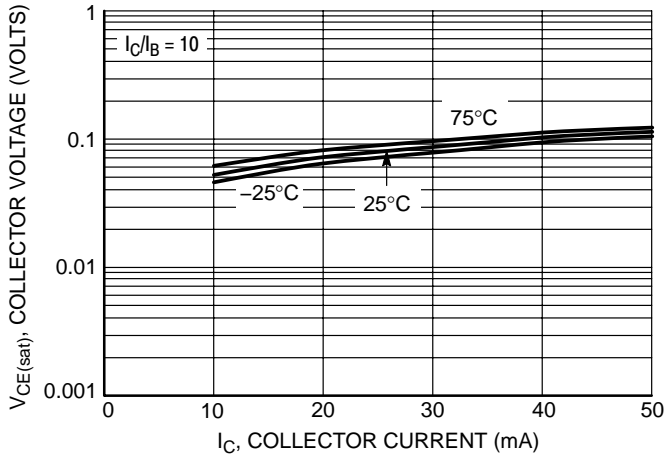


Figure 27. $V_{CE(sat)}$ versus I_C

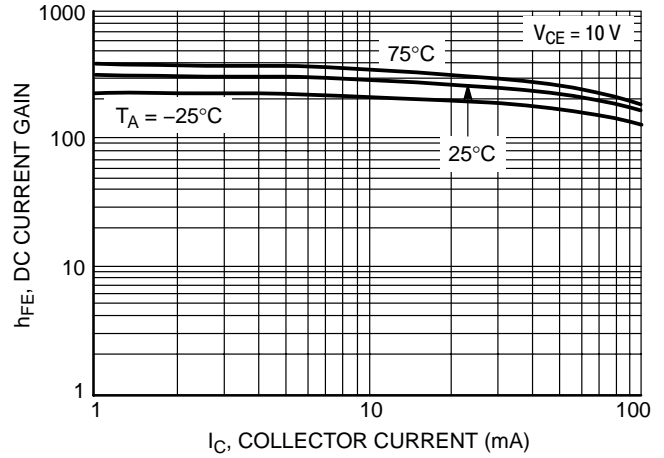


Figure 28. DC Current Gain

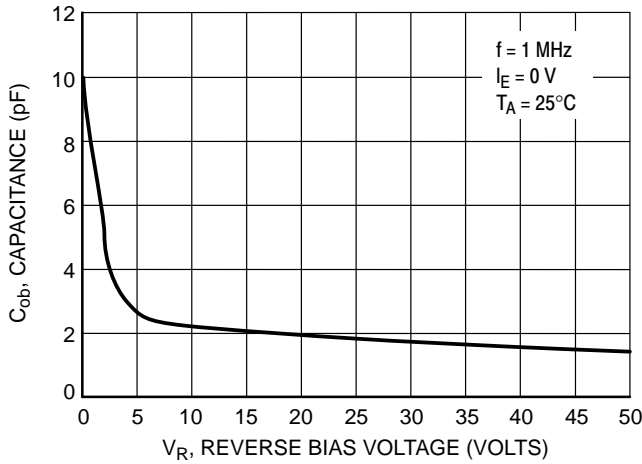


Figure 29. Output Capacitance

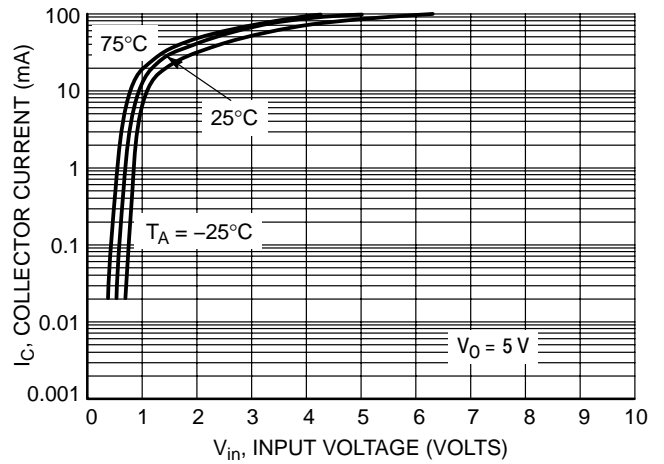


Figure 30. Output Current versus Input Voltage

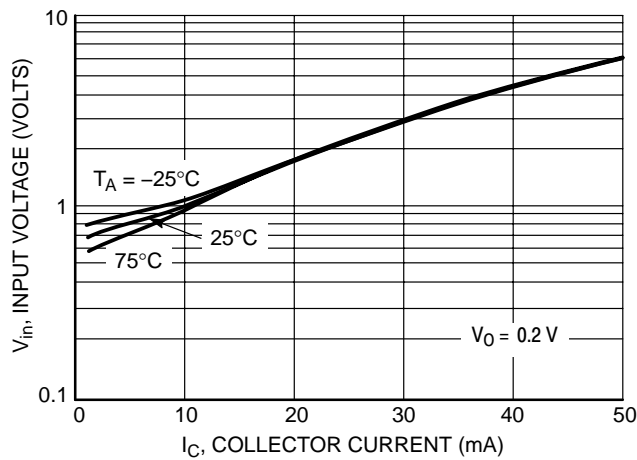


Figure 31. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5130DW1T1

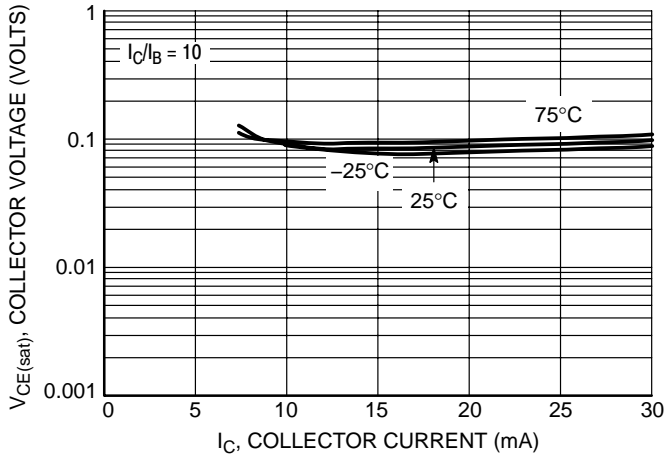


Figure 32. $V_{CE(sat)}$ versus I_C

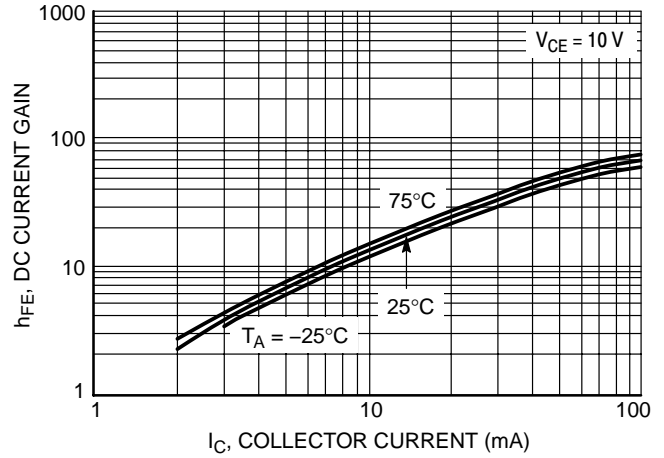


Figure 33. DC Current Gain

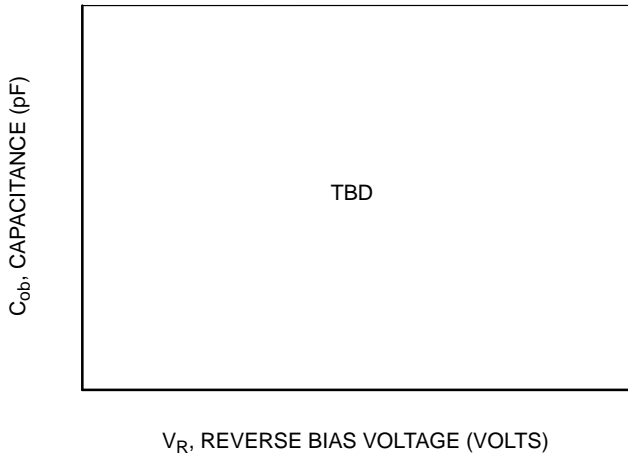


Figure 34. Output Capacitance

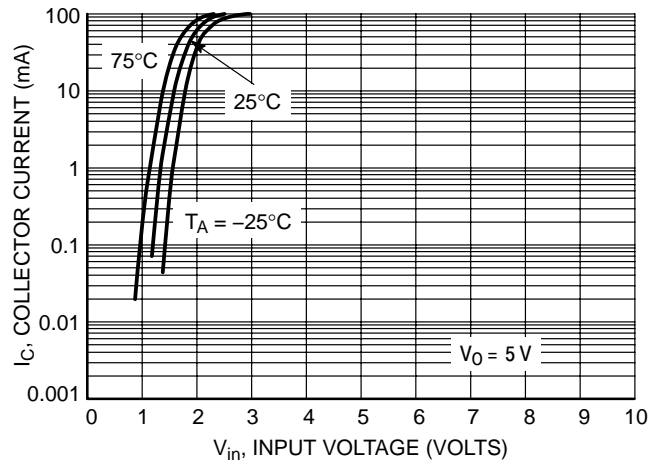


Figure 35. Output Current versus Input Voltage

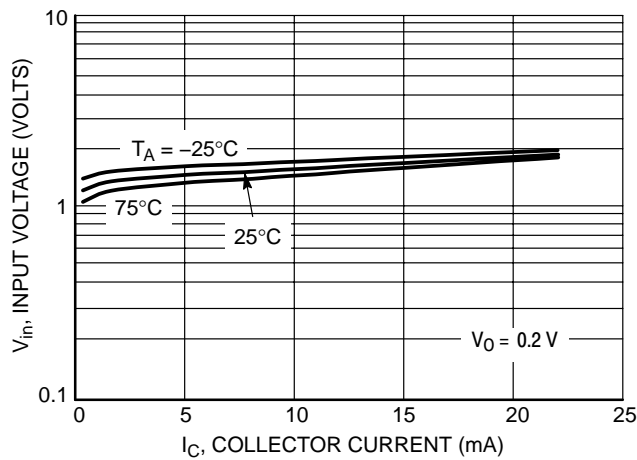


Figure 36. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5131DW1T1

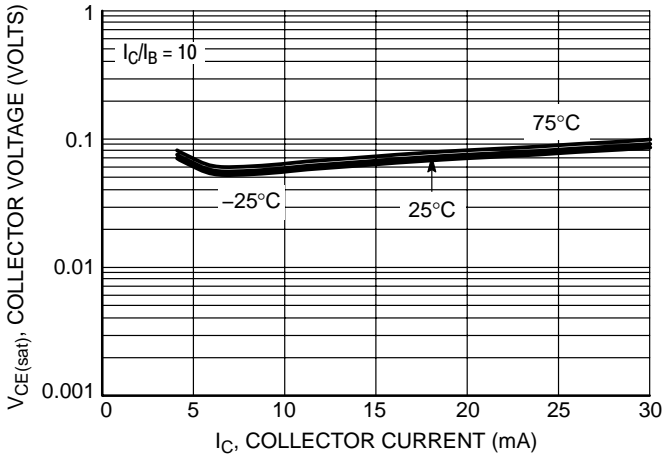


Figure 37. $V_{CE(sat)}$ versus I_C

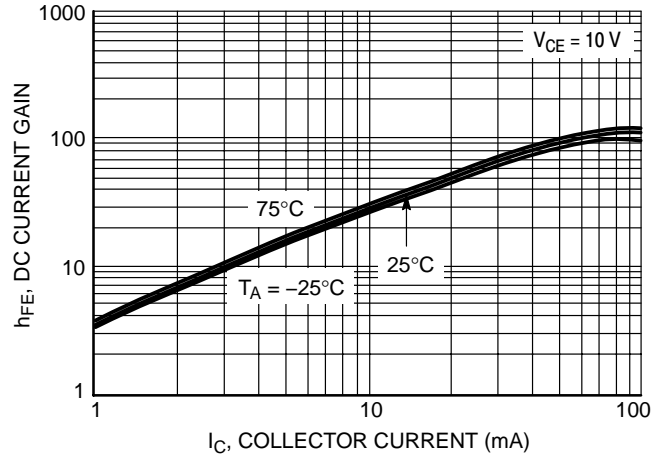


Figure 38. DC Current Gain

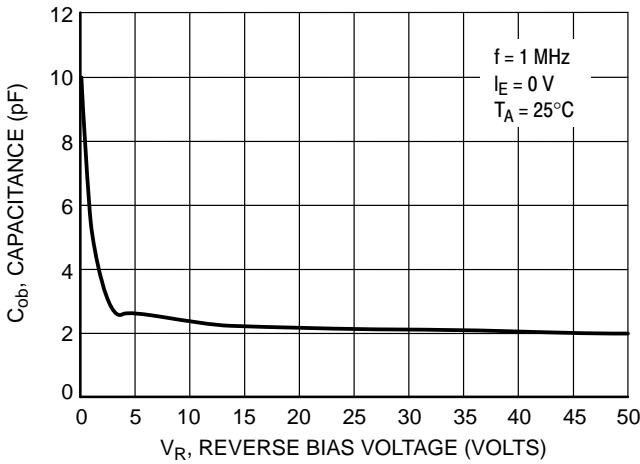


Figure 39. Output Capacitance

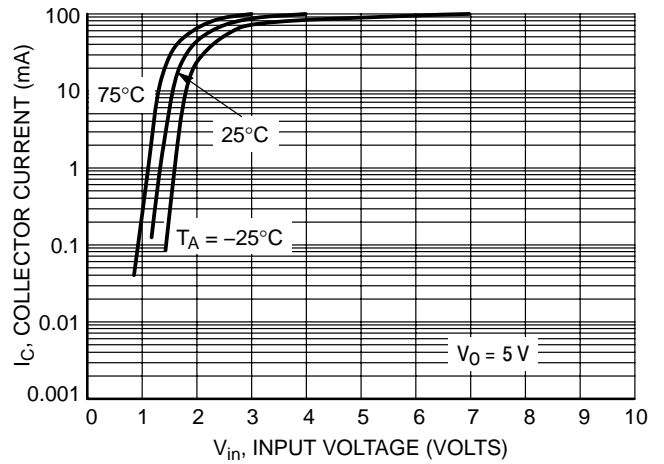


Figure 40. Output Current versus Input Voltage

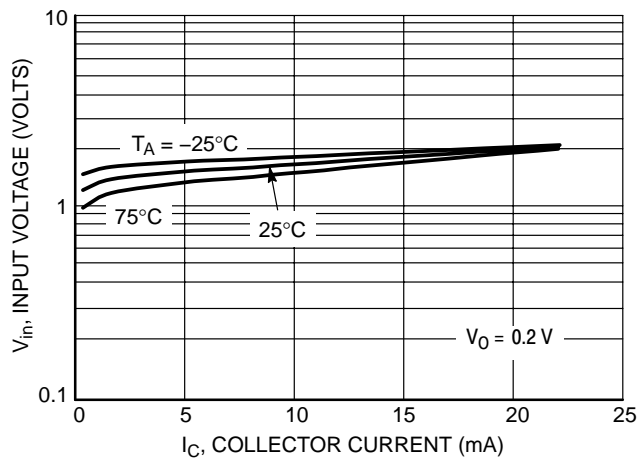


Figure 41. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5132DW1T1

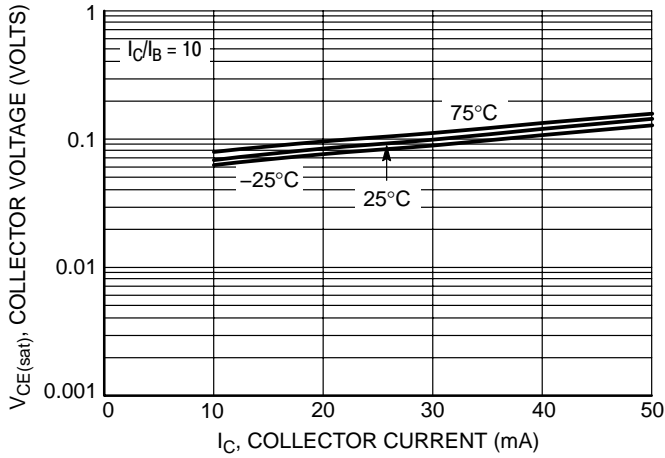


Figure 42. $V_{CE(sat)}$ versus I_C

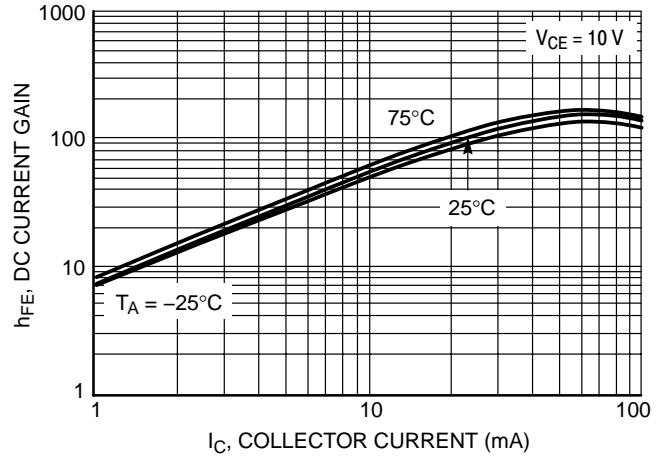


Figure 43. DC Current Gain

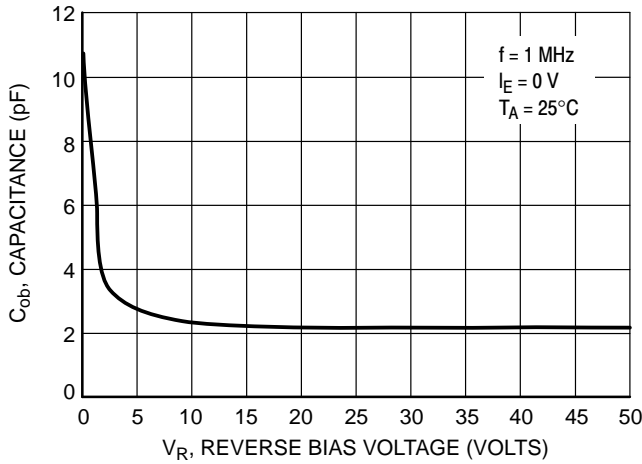


Figure 44. Output Capacitance

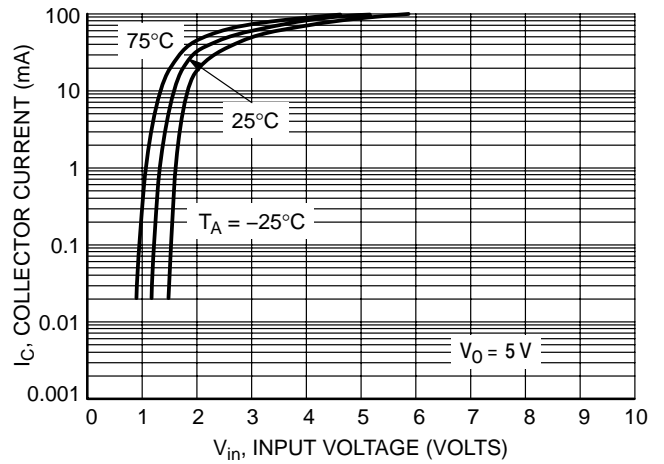


Figure 45. Output Current versus Input Voltage

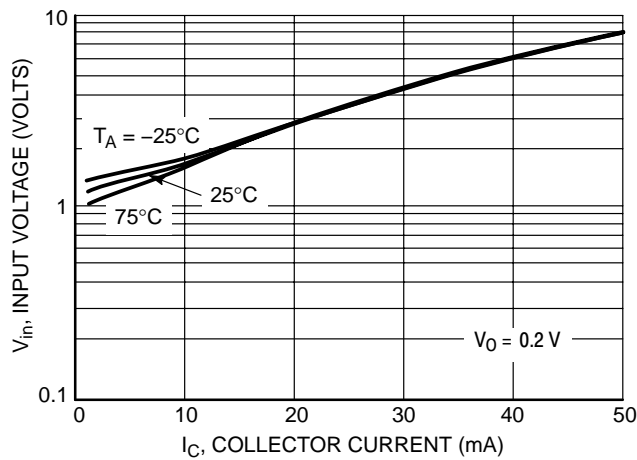


Figure 46. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5133DW1T1

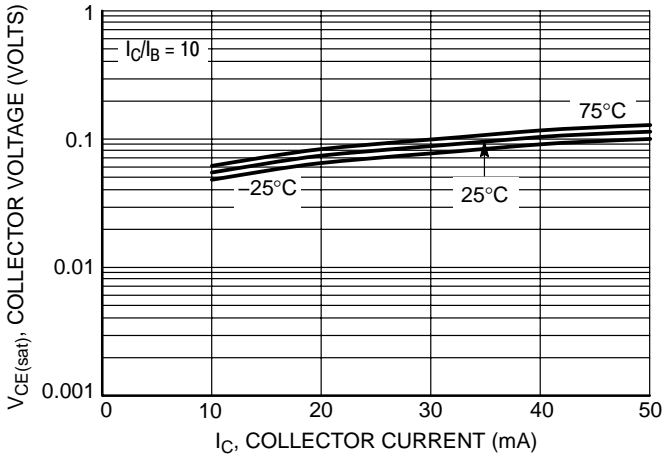


Figure 47. $V_{CE(sat)}$ versus I_C

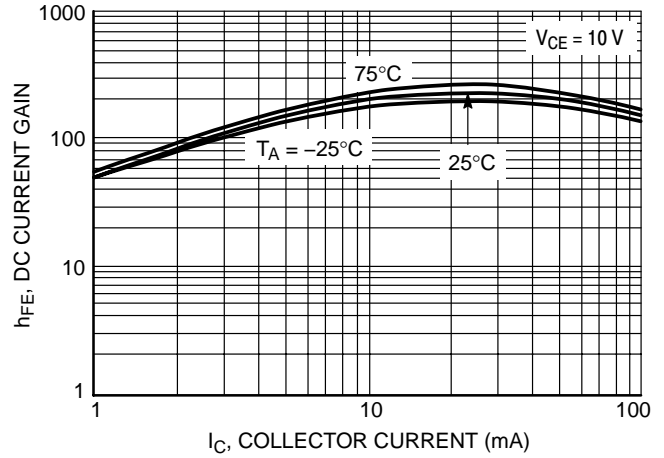


Figure 48. DC Current Gain

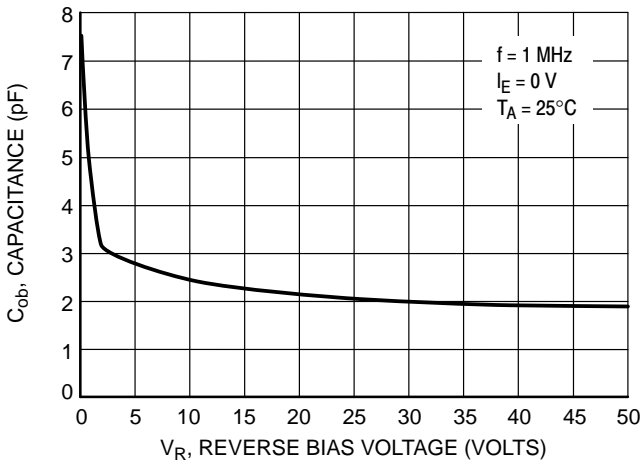


Figure 49. Output Capacitance

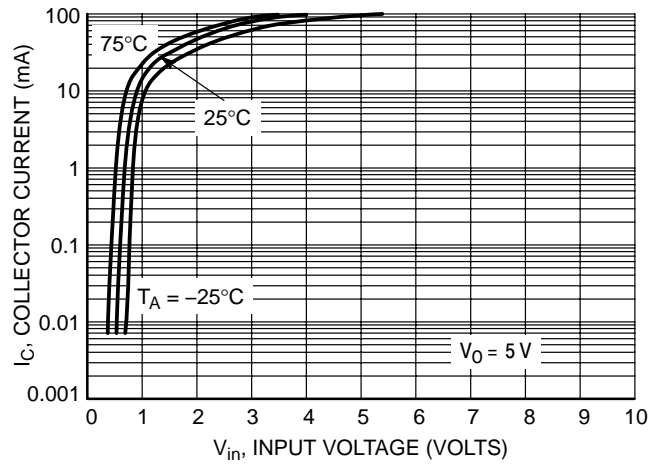


Figure 50. Output Current versus Input Voltage

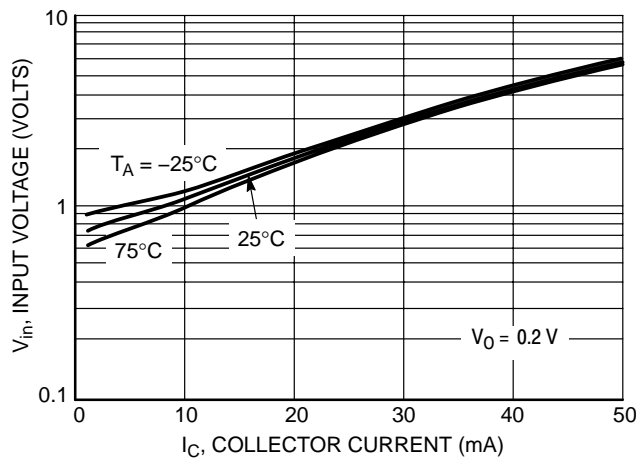


Figure 51. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5134DW1T1

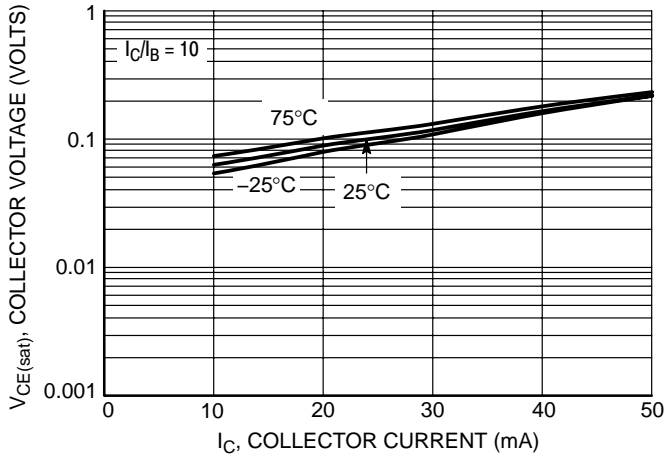


Figure 52. $V_{CE(sat)}$ versus I_C

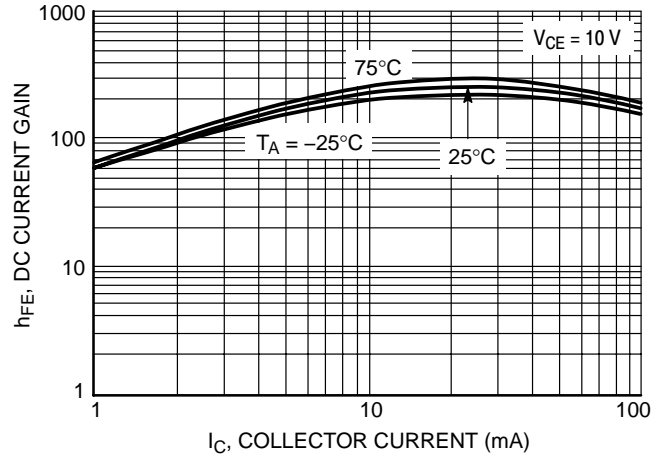


Figure 53. DC Current Gain

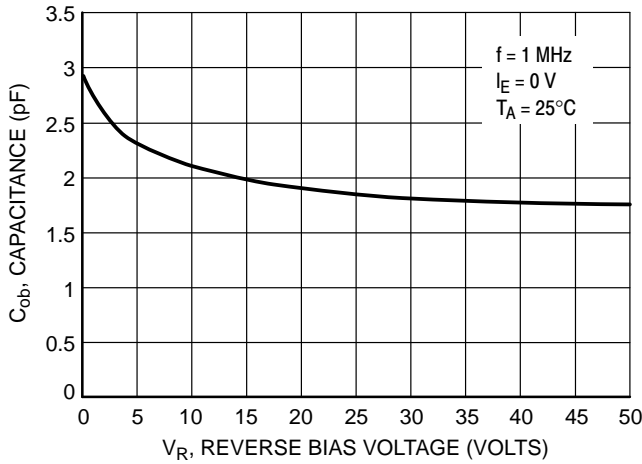


Figure 54. Output Capacitance

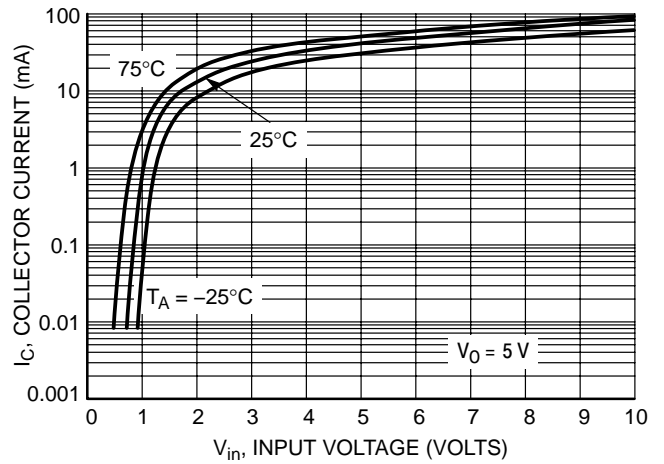


Figure 55. Output Current versus Input Voltage

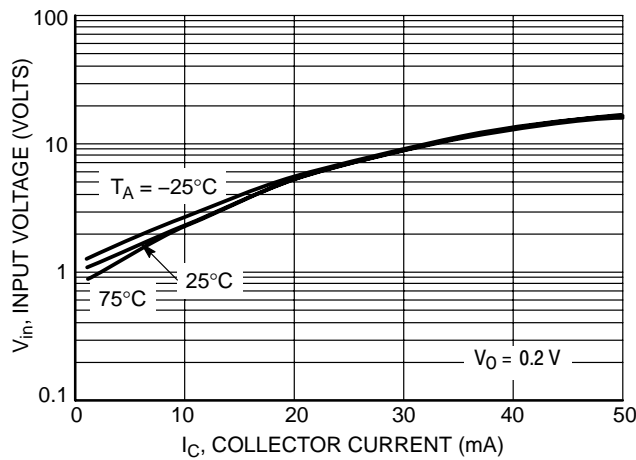


Figure 56. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5135DW1T1

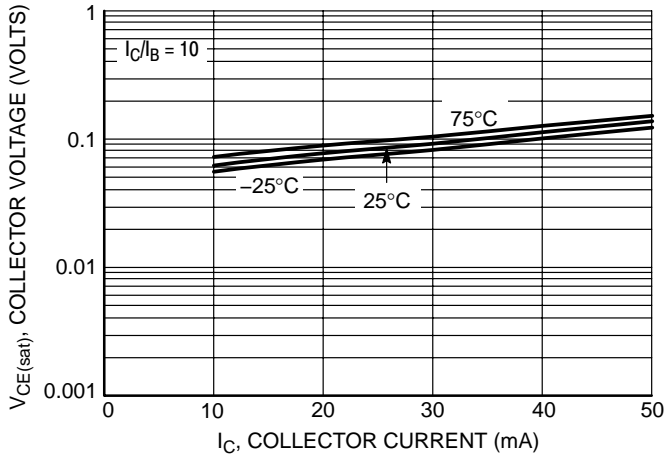


Figure 57. $V_{CE(sat)}$ versus I_C

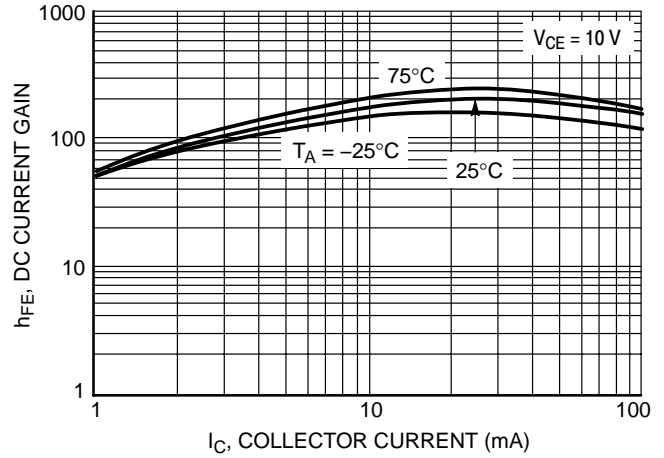


Figure 58. DC Current Gain

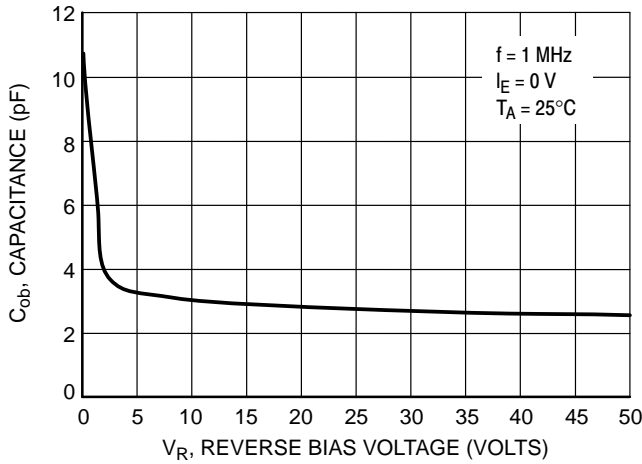


Figure 59. Output Capacitance

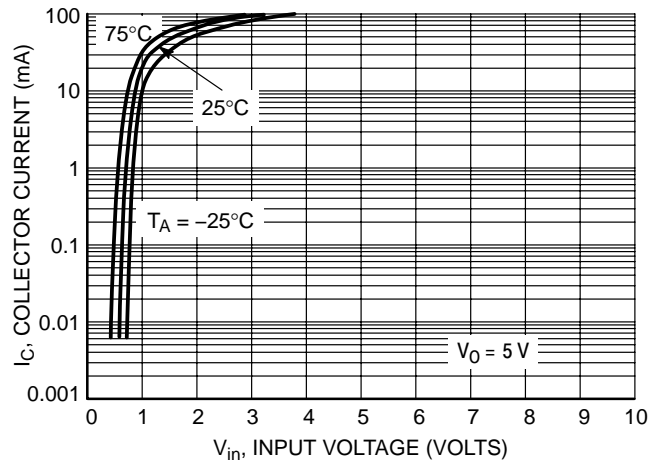


Figure 60. Output Current versus Input Voltage

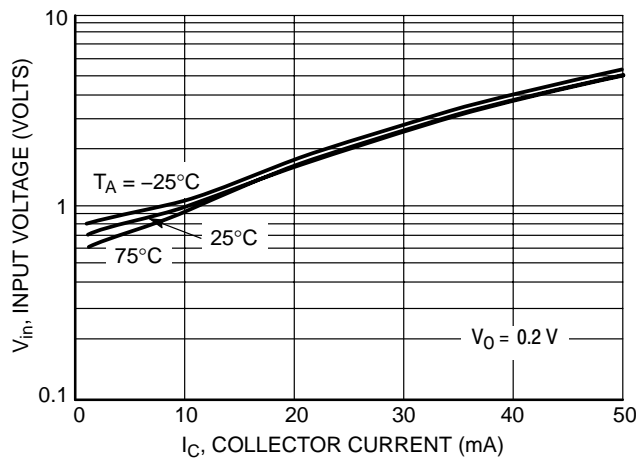


Figure 61. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5136DW1T1

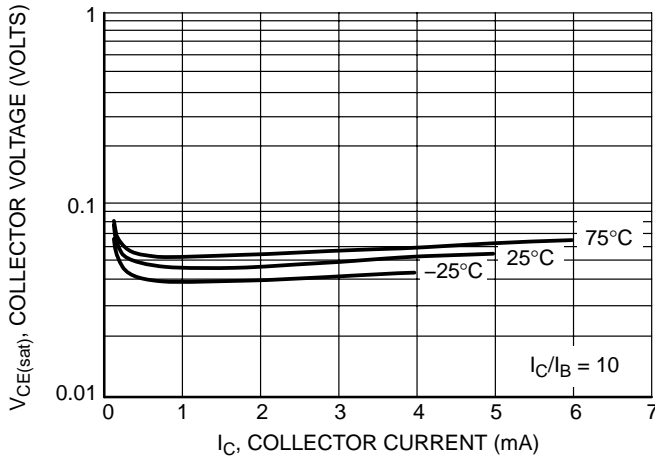


Figure 62. $V_{CE(sat)}$ versus I_C

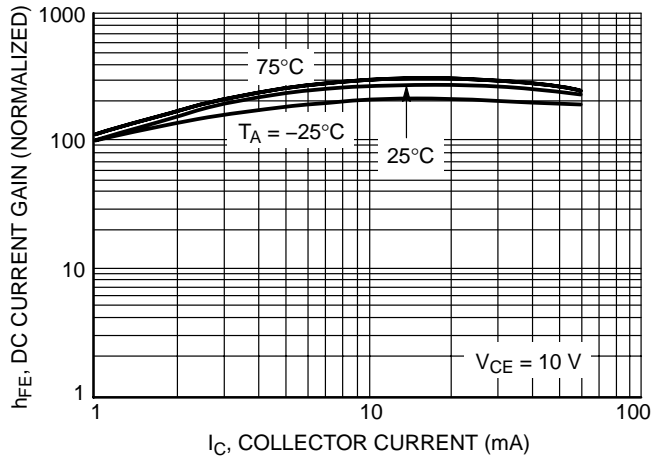


Figure 63. DC Current Gain

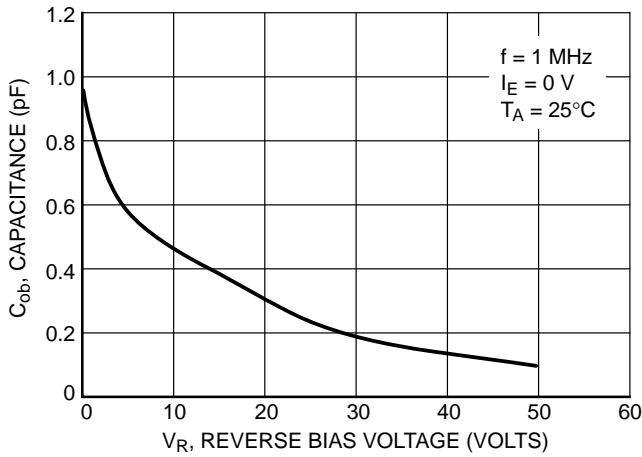


Figure 64. Output Capacitance

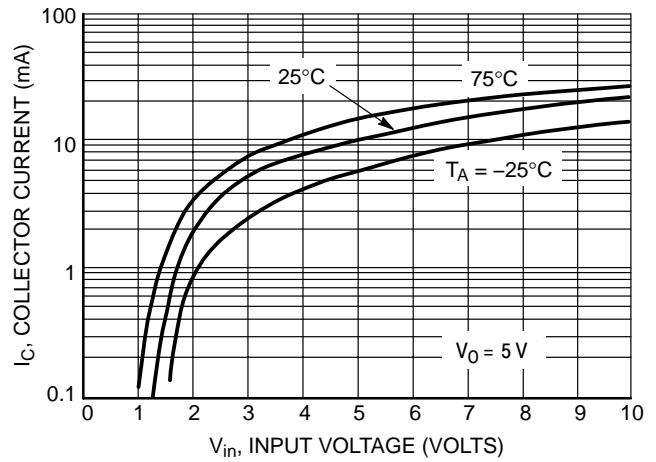


Figure 65. Output Current versus Input Voltage

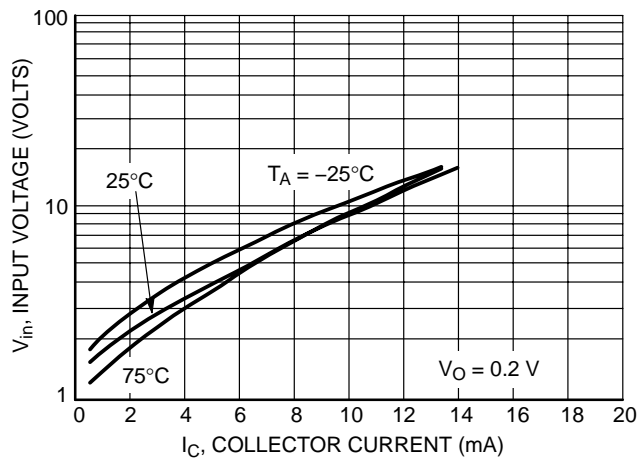


Figure 66. Input Voltage versus Output Current

MUN5111DW1T1 Series

TYPICAL ELECTRICAL CHARACTERISTICS — MUN5137DW1T1

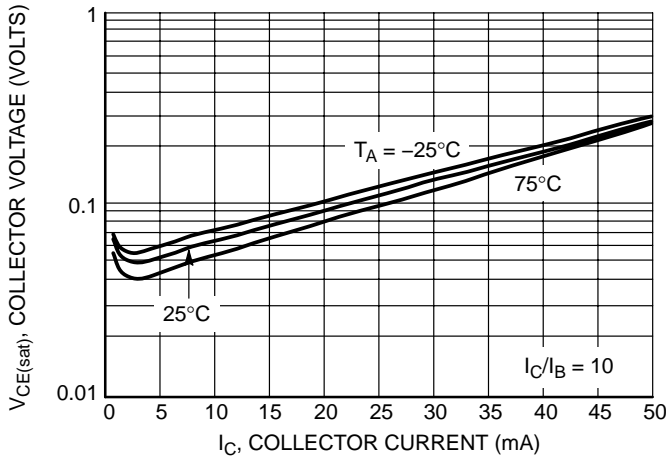


Figure 67. $V_{CE(sat)}$ versus I_C

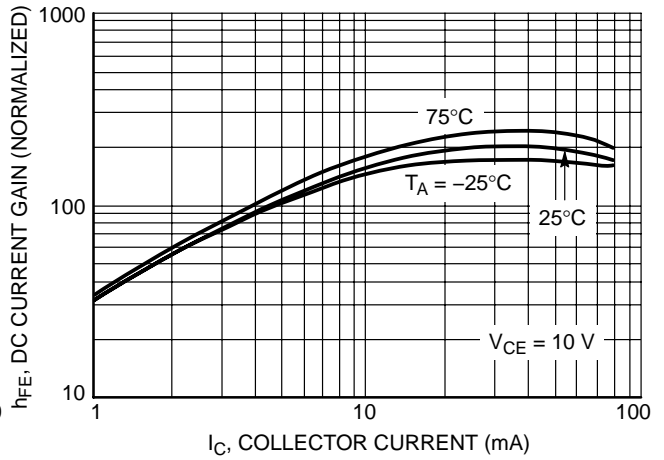


Figure 68. DC Current Gain

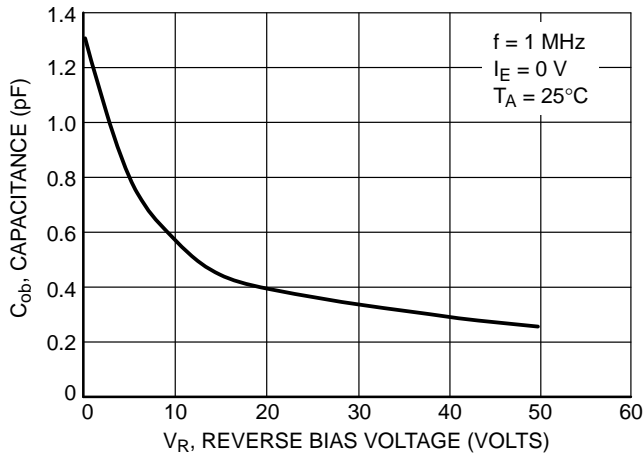


Figure 69. Output Capacitance

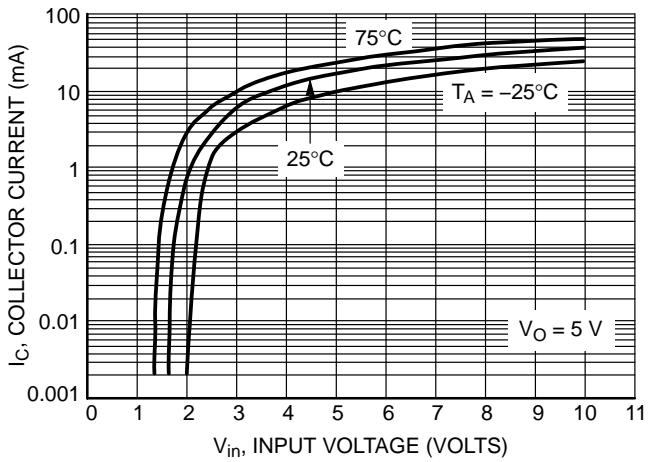


Figure 70. Output Current versus Input Voltage

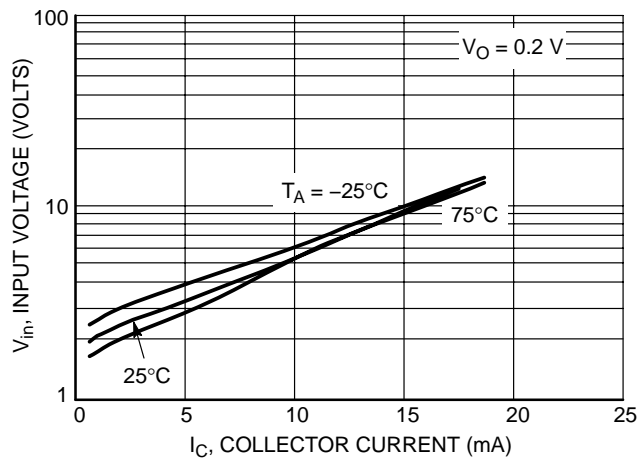



Figure 71. Input Voltage versus Output Current

MUN5111DW1T1 Series

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 5163, Denver, Colorado 80217 USA

Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada

Fax: 303-675-2176 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.