





100V PNP SILICON LOW SATURATION TRANSISTOR IN SOT23

Features

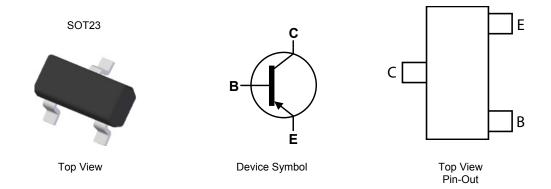
- BV_{CEO} > -100V
- I_C = -1A Continuous Collector Current
- I_{CM} = -2.5A Peak Pulse Current
- Low Saturation Voltage V_{CE(sat)} < -330mV @ -1A
- $R_{CE(SAT)} = 210 \text{m}\Omega$ for a low equivalent on-resistance
- 625mW power dissipation
- hFE characterised up to -1.5A for high current gain hold-up
- Complementary NPN Type: FMMT624
- Totally Lead-Free & Fully RoHS compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOT23
- · Case Material: molded plastic, "Green" molding compound
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 (3)
- Weight 0.008 grams (approximate)

Applications

- High-side driver
- Load disconnect switch
- Motor drive



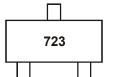
Ordering Information (Note 4)

Product	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
FMMT723TA	723	7	8	3,000

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com for more information about Diodes Incorporated's definitions of Halogen and Antimony free, "Green" and Lead-Free.
- 3. Halogen and Antimony free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http://www.diodes.com

Marking Information



723 = Product Type Marking Code



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-100	V
Emitter-Base Voltage	V_{EBO}	-7	V
Continuous Collector Current	Ic	-1	Α
Peak Pulse Current	I _{CM}	-2.5	Α
Base Current	I _B	-500	mA

Thermal Characteristics ($@T_A = +25^{\circ}C$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	625	mW
Power Dissipation (Note 6)	P _D	806	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	200	°C/W
Thermal Resistance, Junction to Ambient (Note 6)	$R_{ heta JA}$	155	°C/W
Thermal Resistance, Junction to Leads (Note 7)	R _{θJL}	194	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 8)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	≥ 400	V	С

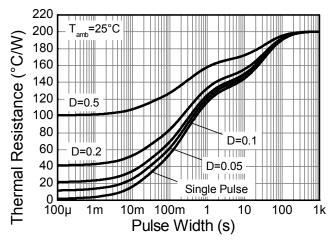
Notes:

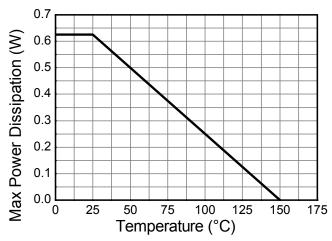
- 5. For a device surface mounted on 25mm X 25mm FR4 PCB with high coverage of single sided 1 oz copper, in still air conditions; the device is measured when operating in a steady-state condition.
- 6. Same as note 5, except the device is measured at $t \le 5$ sec.
- 7. Thermal resistance from junction to solder-point (at the end of the collector lead).
- 8. Refer to JEDEC specification JESD22-A114 and JESD22-A115.



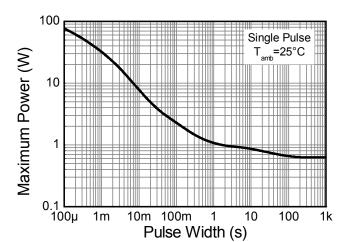


Thermal Characteristics and Derating information

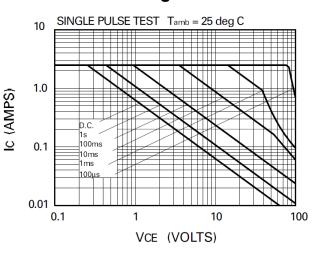




Transient Thermal Impedance



Derating Curve



Pulse Power Dissipation

Safe Operating Area



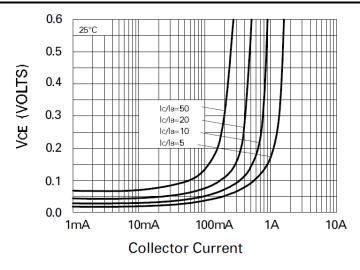
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

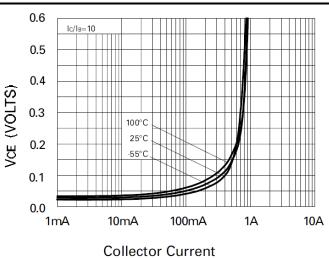
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV _{CBO}	-100	-200	-	V	I _C = -100μA
Collector-Emitter Breakdown Voltage (Note 9)	BV _{CEO}	-100	-160	-	V	I _C = -10mA
Emitter-Base Breakdown Voltage	BV _{EBO}	-7	-8.8	-	V	I _E = -100μA
Collector Cutoff Current	I _{CBO}	-	<1	-100	nA	V _{CB} = -80V
Emitter Cutoff Current	I _{EBO}	-	<1	-100	nA	$V_{EB} = -5.6V$
Collector Emitter Cutoff Current	I _{CES}	-	<1	-100	nA	V _{CE} = -80V
		300	475	-		$I_C = -10 \text{mA}, V_{CE} = -10 \text{V}$
		300	450	-		$I_C = -0.1A$, $V_{CE} = -10V$
Static Forward Current Transfer Ratio (Note 9)	h _{FE}	250	375	-	-	$I_C = -0.5A$, $V_{CE} = -10V$
		-	250	-		$I_C = -1A$, $V_{CE} = -10V$
		-	30	-		I _C = -1.5A, V _{CE} = -10V
		-	-50	-80		$I_C = -0.1A$, $I_B = -10mA$
Collector-Emitter Saturation Voltage (Note 9)	$V_{CE(sat)}$	-	-125	-200	mV	$I_C = -0.5A$, $I_B = -50mA$
		-	-210	-330		$I_C = -1A$, $I_B = -150mA$
Base-Emitter Turn-On Voltage(Note 9)	$V_{BE(on)}$	-	-0.71	-1.0	V	$I_C = -1A$, $V_{CE} = -10V$
Base-Emitter Saturation Voltage(Note 9)	$V_{BE(sat)}$	-	-0.89	-1.0	V	$I_C = -1A$, $I_B = -150mA$
Output Capacitance	C_{obo}	-	13	20	pF	V _{CB} = -10V, f = 1MHz
Transition Frequency	f _T	150	200	-	MHz	$V_{CE} = -10V, I_{C} = -50mA,$ f = 100MHz
Turn-On Time	t _{on}	-	50	-	ns	$V_{CC} = -50V, I_{C} = -0.5A$
Turn-Off Time	t _{off}	-	760	-	ns	$I_{B1} = I_{B2} = -50 \text{mA}$

Notes: 9. Measured under pulsed conditions. Pulse width \leq 300 μ s. Duty cycle \leq 2%

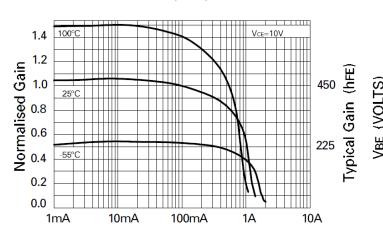


Typical Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

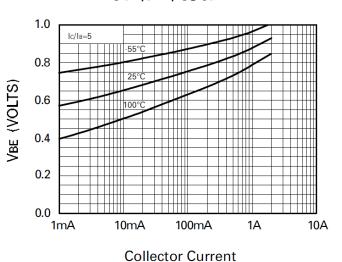




VCE(SAT) vs IC

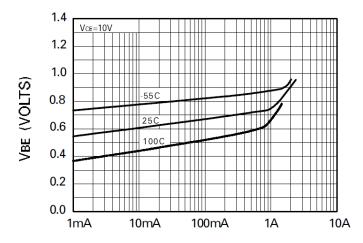


VCE(SAT) vs IC



Collector Current

hfe vs IC



Collector Current

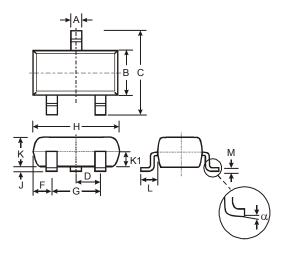
VBE(ON) vs IC

VBE(SAT) vs IC



Package Outline Dimensions

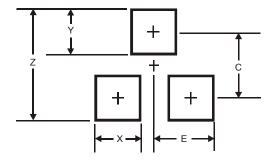
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SOT23					
Dim	Min	Max	Тур		
Α	0.37	0.51	0.40		
В	1.20	1.40	1.30		
С	2.30	2.50	2.40		
D	0.89	1.03	0.915		
F	0.45	0.60	0.535		
G	1.78	2.05	1.83		
Н	2.80	3.00	2.90		
J	0.013	0.10	0.05		
K	0.903	1.10	1.00		
K1	-	-	0.400		
L	0.45	0.61	0.55		
M	0.085	0.18	0.11		
α	0°	8°	-		
All Dimensions in mm					

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)		
Z	2.9		
X	0.8		
Y	0.9		
С	2.0		
Ш	1.35		





IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

- A. Life support devices or systems are devices or systems which:
 - 1. are intended to implant into the body, or
 - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
- B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2013, Diodes Incorporated

www.diodes.com

ПОСТАВКА ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9