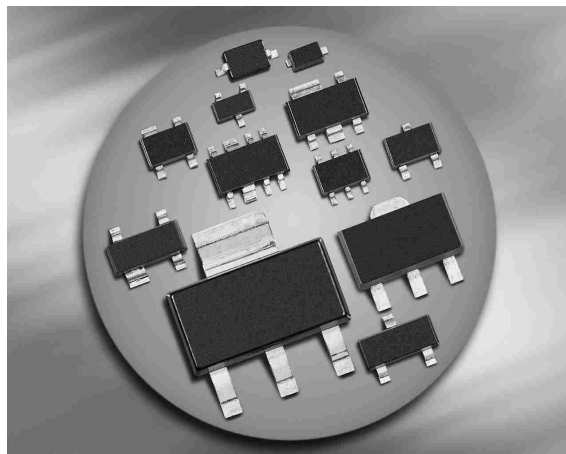
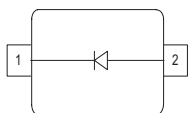


Silicon Schottky Diodes

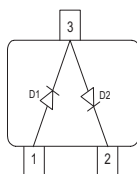
- Low barrier type for DBS mixer applications up to 12 GHz, phase detectors and modulators
- Low noise figure
- Pb-free (RoHS compliant) package



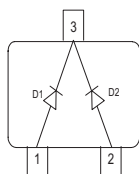
BAT15-02LRH
BAT15-03W



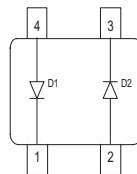
BAT15-04W



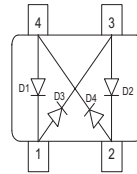
BAT15-05W



BAT15-099
BAT15-099LRH



BAT15-099R



ESD (Electrostatic discharge) sensitive device, observe handling precaution!

Type	Package	Configuration	L_S (nH)	Marking
BAT15-02LRH	TSLP-2-7	single, leadless	0.4	NP
BAT15-03W	SOD323	single	1.8	white P
BAT15-04W	SOT323	series	1.4	S8s
BAT15-05W	SOT323	common cathode	1.4	S5s
BAT15-07LRH	TSLP-4-7	parallel pair, leadless	0.4	NP
BAT15-098LRH	TSLP-4-7	anti-parallel pair, leadless	0.4	B
BAT15-099	SOT143	anti-parallel pair	2	S5s
BAT15-099R	SOT143	cross-over ring	2	S6s
BAT15-099LRH	TSLP-4-7	anti-parallel pair, leadless	0.4	S5

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	4	V
Forward current	I_F	110	mA
Total power dissipation	P_{tot}		mW
BAT15-02LRH, -099LRH $T_S \leq 76^\circ\text{C}$		100	
BAT15-03W, $T_S \leq 70^\circ\text{C}$		100	
BAT15-04W, $T_S \leq 68^\circ\text{C}$		100	
BAT15-05W, $T_S \leq 65^\circ\text{C}$		100	
BAT15-099, $T_S \leq 48^\circ\text{C}$		100	
BAT15-099R, $T_S \leq 67^\circ\text{C}$		100	
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BAT15-02LRH, -099LRH		≤ 780	
BAT15-03W		≤ 795	
BAT15-04W		≤ 820	
BAT15-05W		≤ 850	
BAT15-099		≤ 1020	
BAT15-099R		≤ 830	

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

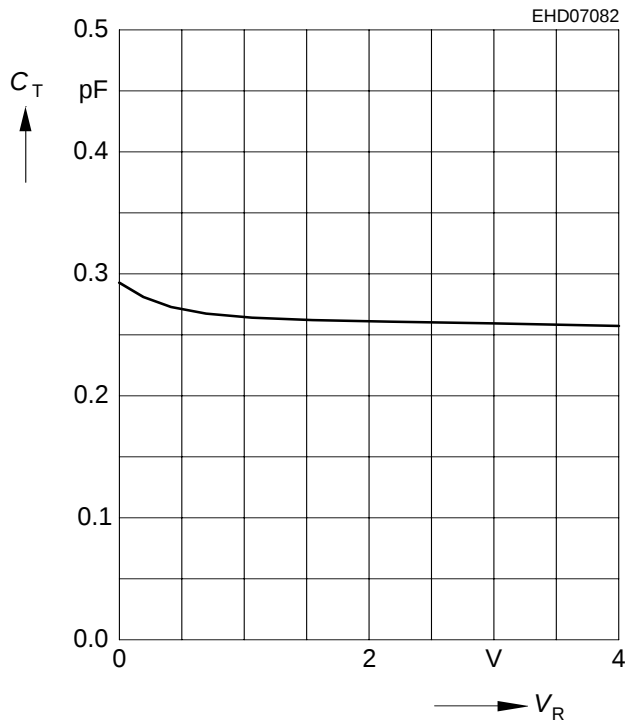
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	4	-	-	V
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$	V_F	0.16 0.25	0.23 0.32	0.32 0.41	
Forward voltage matching ¹⁾ $I_F = 10 \text{ mA}$	ΔV_F	-	-	20	
AC Characteristics					
Diode capacitance $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, all other types $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, BAT15-099R	C_T	- -	- -	0.35 0.5	pF
Differential forward resistance $I_F = 10 \text{ mA} / 50 \text{ mA}$	R_F	-	5.5	-	

¹⁾ ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

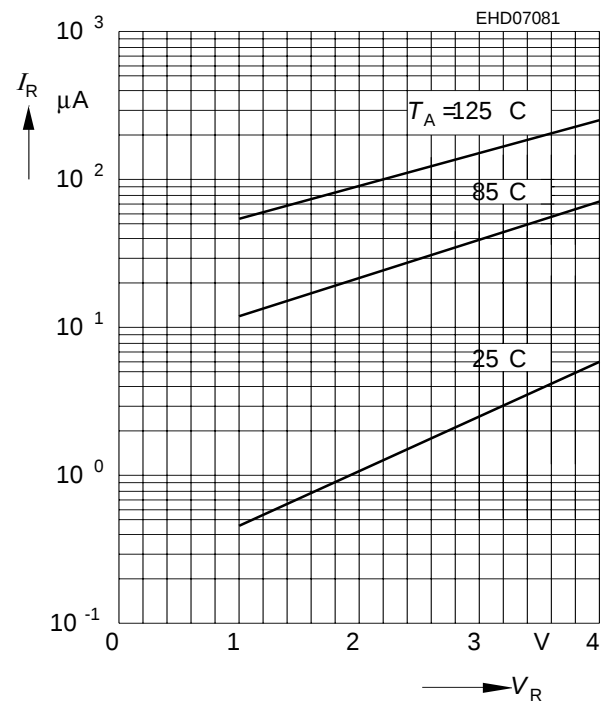
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



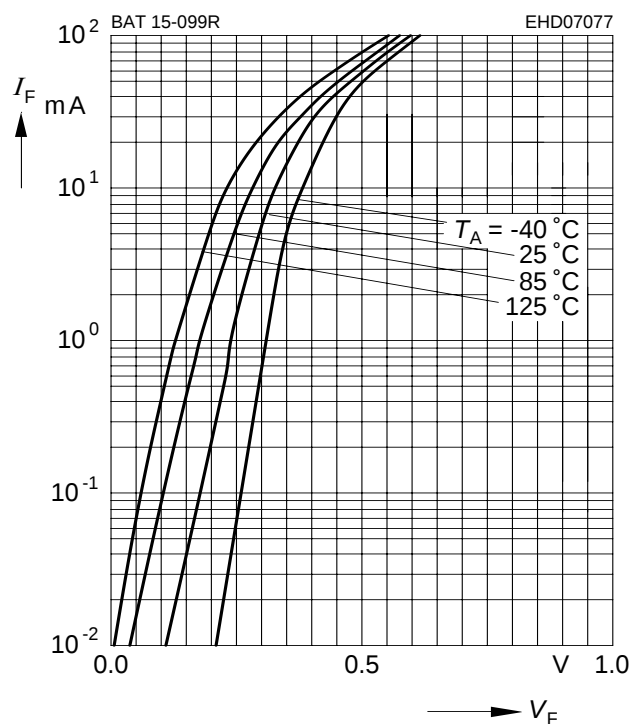
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



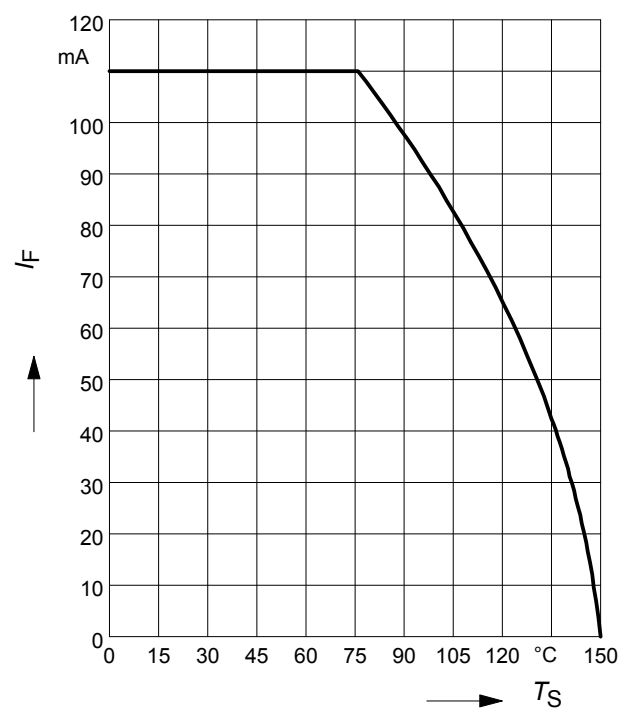
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



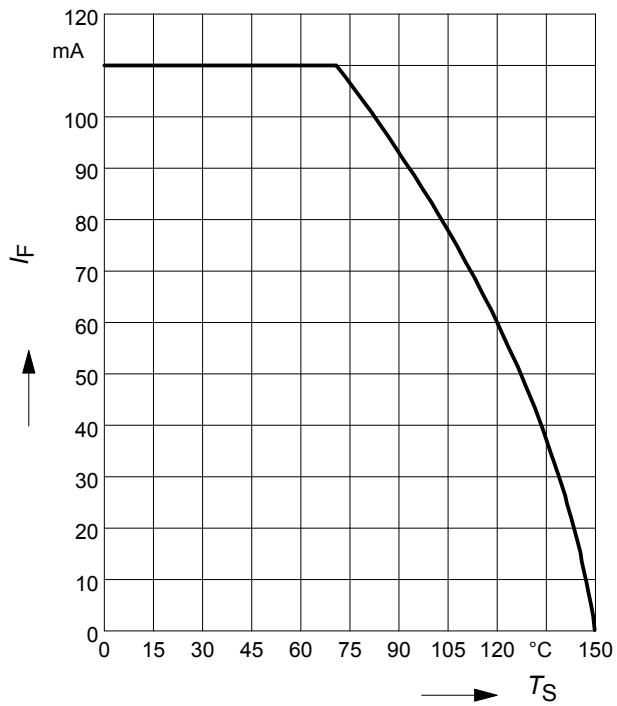
Forward current $I_F = f(T_S)$

BAT15-02LRH, BAT15-099LRH



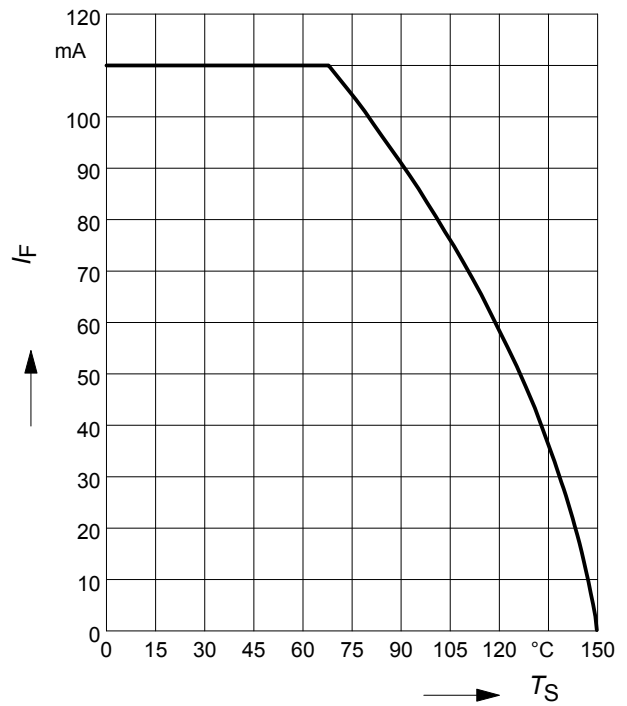
Forward current $I_F = f(T_S)$

BAT15-03W



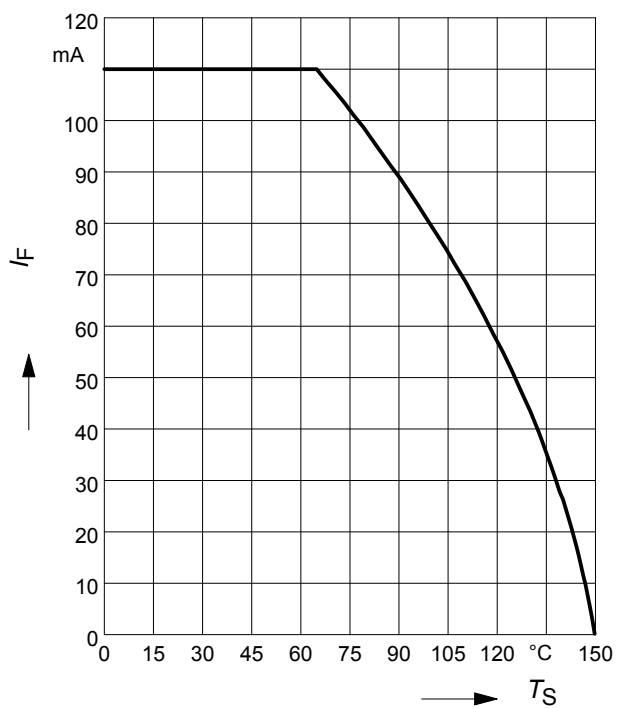
Forward current $I_F = f(T_S)$

BAT15-04W



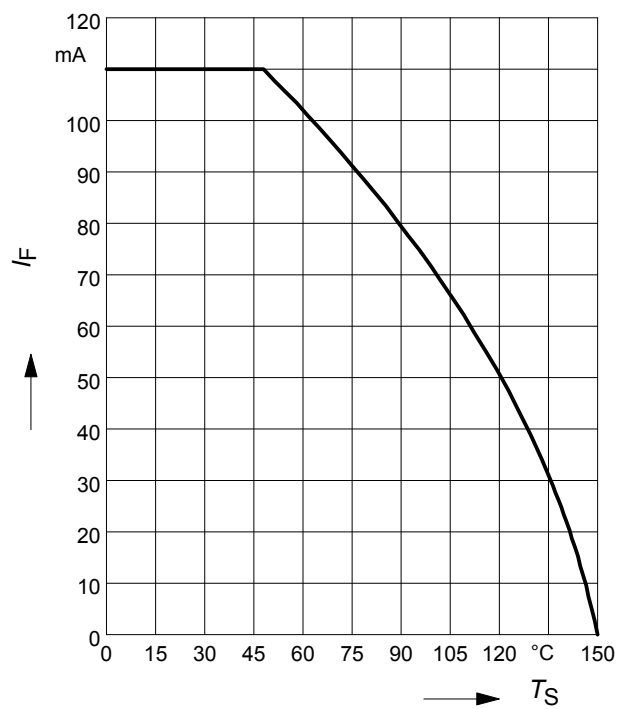
Forward current $I_F = f(T_S)$

BAT15-05W



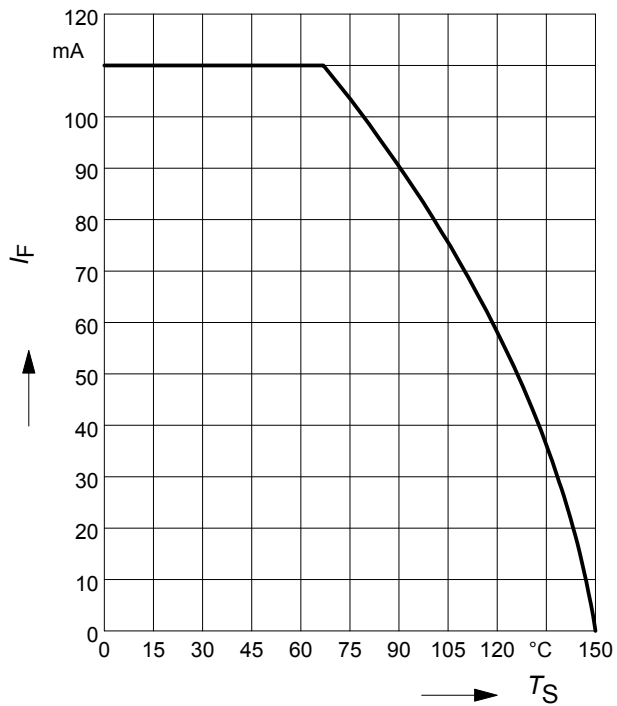
Forward current $I_F = f(T_S)$

BAT15-099



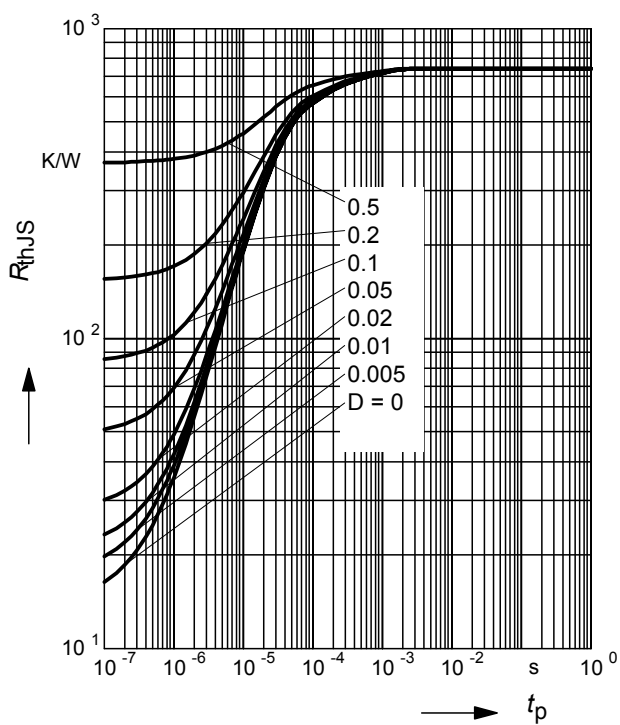
Forward current $I_F = f(T_S)$

BAT15-099R



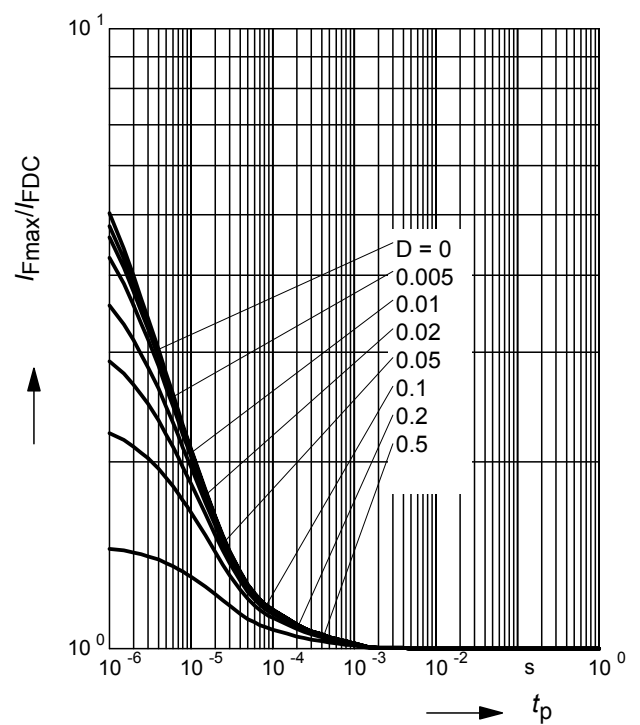
Permissible Puls Load $R_{thJS} = f(t_p)$

BAT15-02LRH, BAT15-099LRH



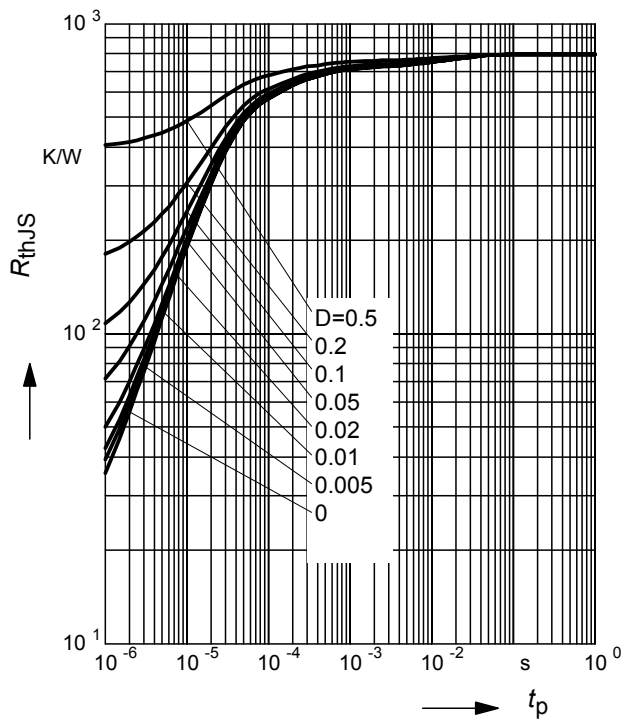
Permissible Pulse Load

$I_{Fmax}/I_{FDC} = f(t_p)$ BAT15-02LRH,
BAT15-099LRH



Permissible Puls Load $R_{thJS} = f(t_p)$

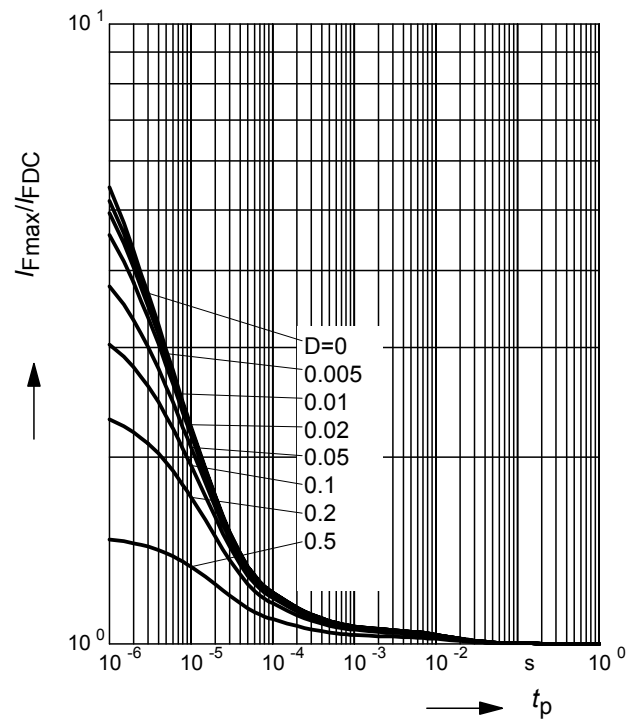
BAT15-03W



Permissible Pulse Load

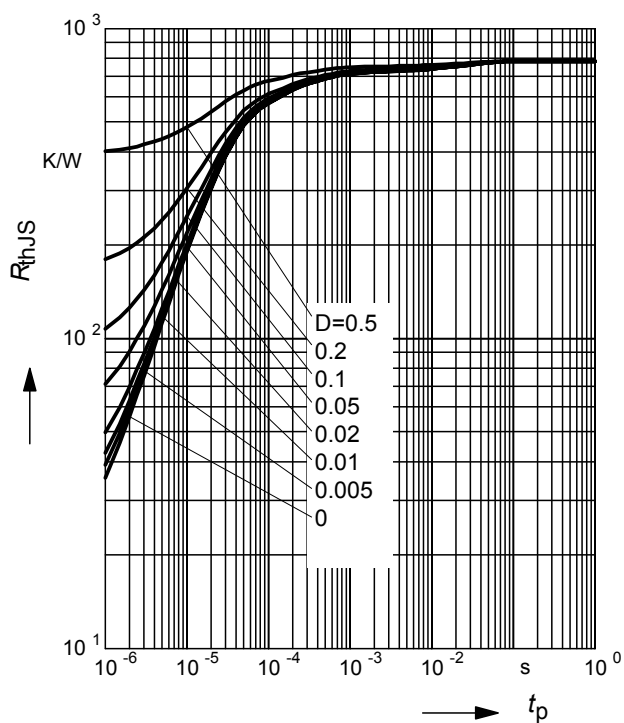
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT15-03W



Permissible Puls Load $R_{thJS} = f(t_p)$

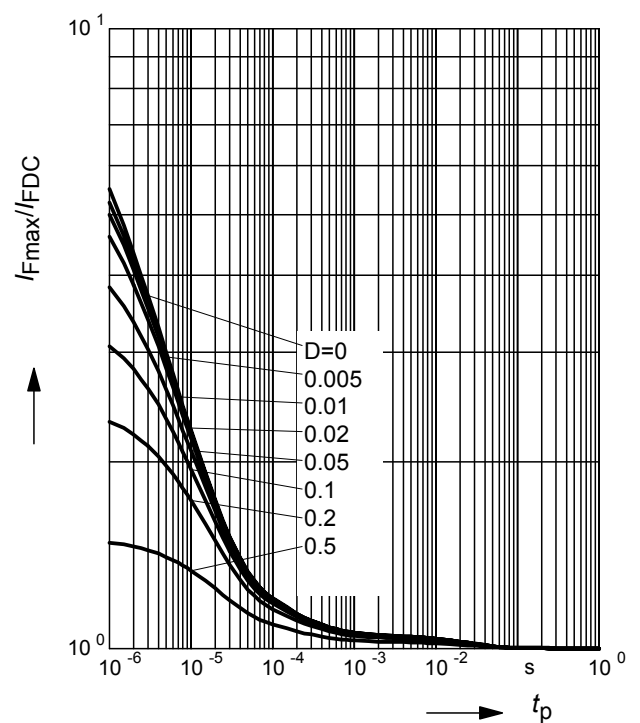
BAT15-04W



Permissible Pulse Load

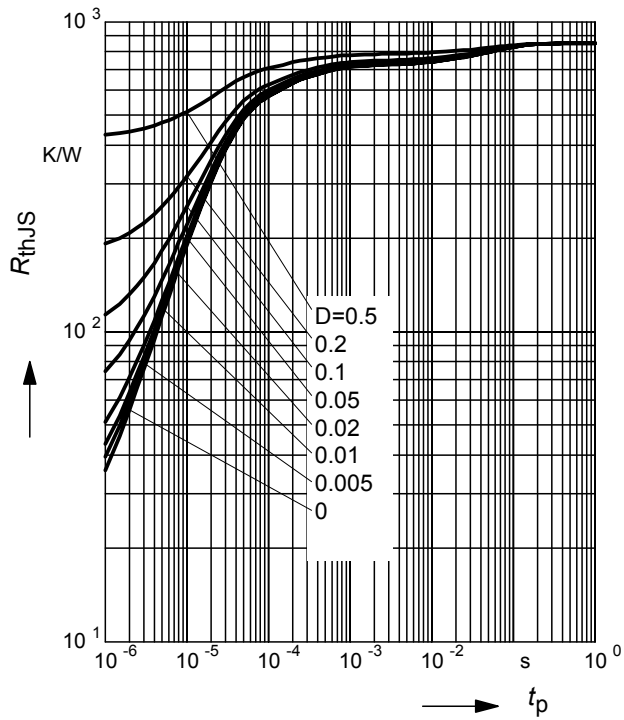
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT15-04W



Permissible Puls Load $R_{thJS} = f(t_p)$

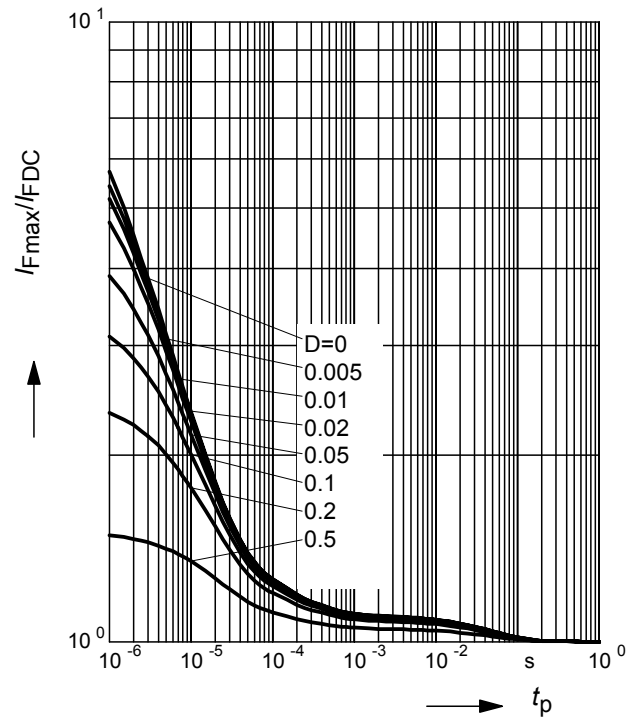
BAT15-05W



Permissible Pulse Load

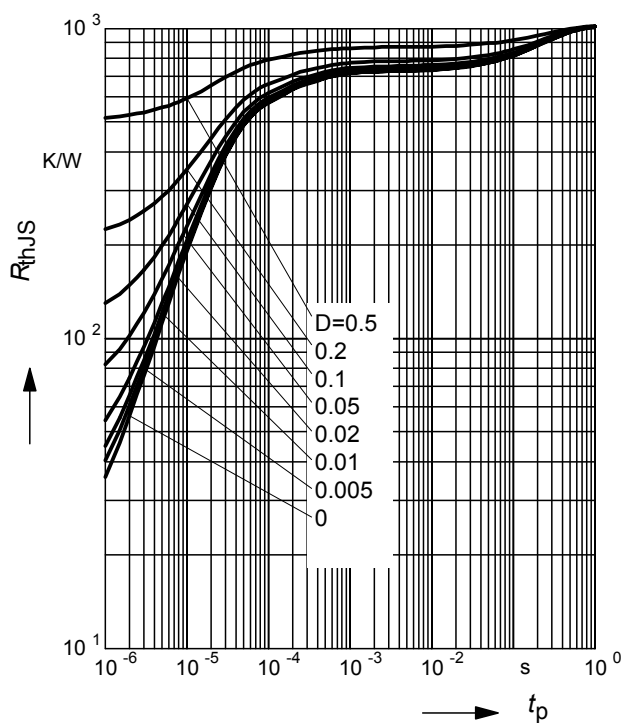
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT15-05W



Permissible Puls Load $R_{thJS} = f(t_p)$

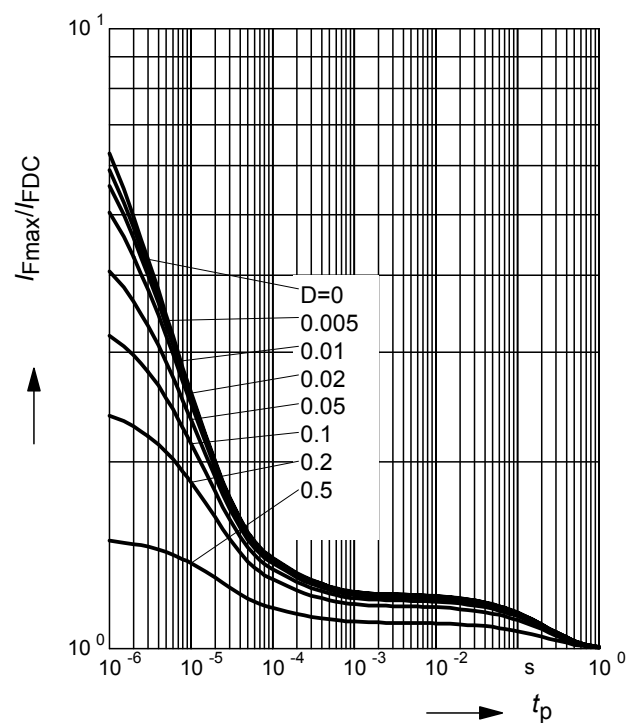
BAT15-099



Permissible Pulse Load

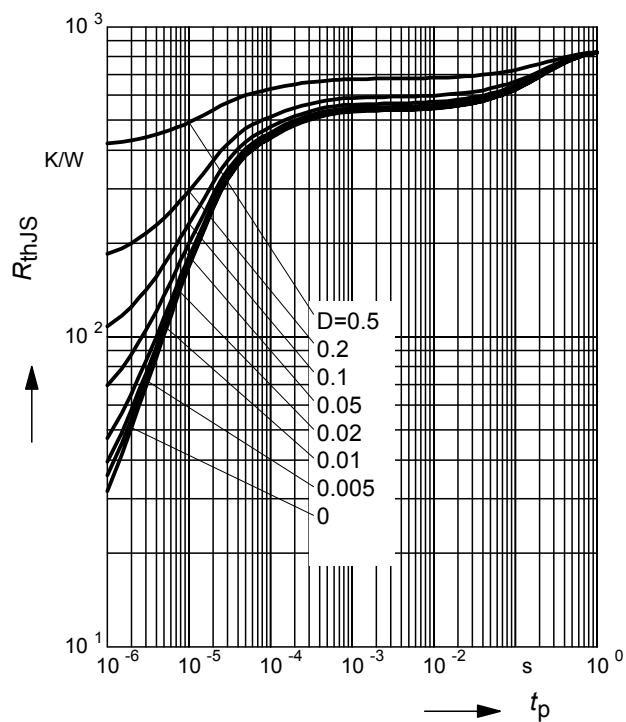
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT15-099



Permissible Puls Load $R_{thJS} = f(t_p)$

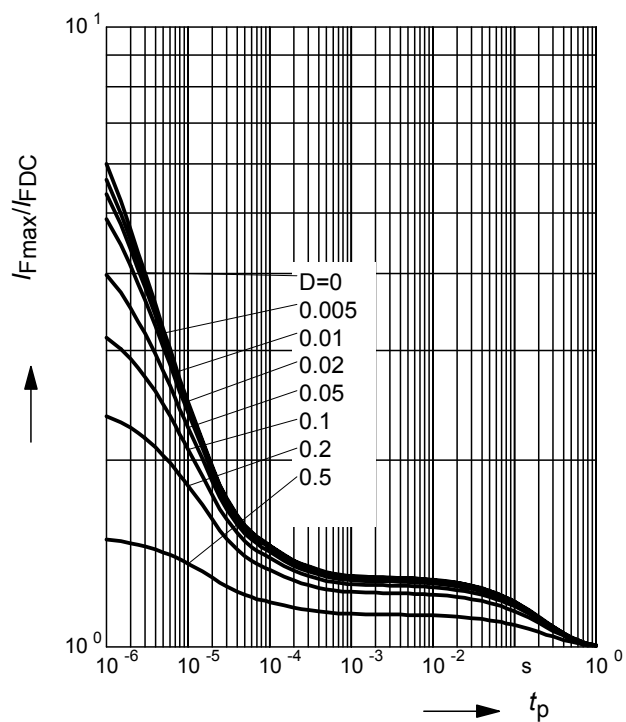
BAT15-099R



Permissible Pulse Load

$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT15-099R

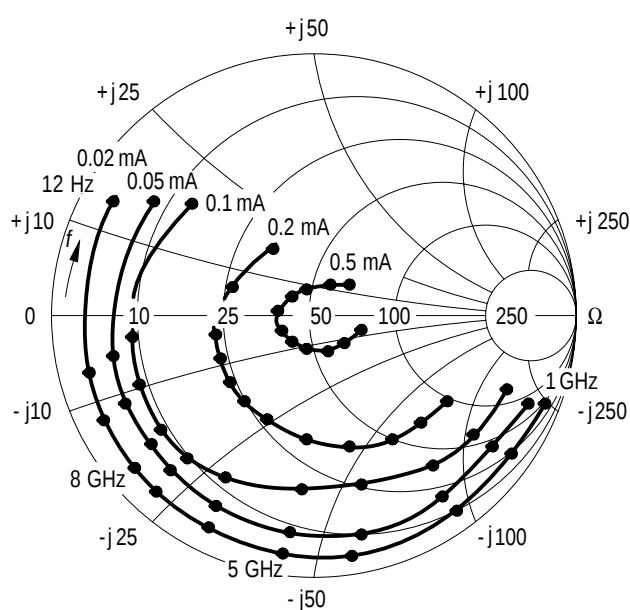


S₁₁-Parameters for BAT15-099

Typical impedance characteristics (with external bias I and $Z_0 = 50\Omega$)

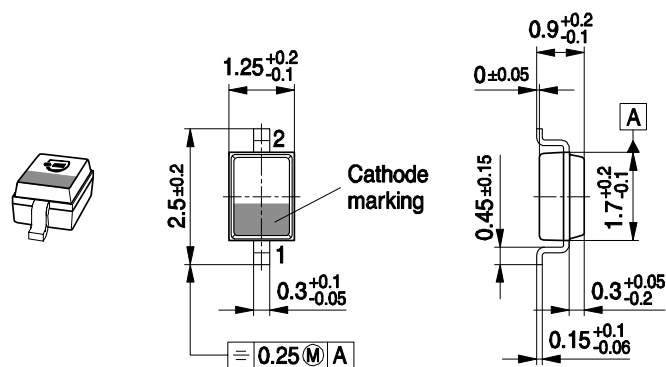
f	$I = 0.02 \text{ mA}$		$I = 0.05 \text{ mA}$		$I = 0.1 \text{ mA}$		$I = 0.2 \text{ mA}$		$I = 0.5 \text{ mA}$	
GHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1	0.94	-16.4	0.84	-16.6	0.77	-16.4	0.59	-17.2	0.19	-16.7
2	0.93	-33.8	0.88	-33.8	0.77	-34.5	0.58	-35.2	0.15	-36.1
3	0.92	-53.8	0.86	-54.5	0.75	-54.1	0.58	-56.1	0.13	-64.8
4	0.91	-74.3	0.84	-75.3	0.72	-76.4	0.51	-78.4	0.11	-104.8
5	0.91	-96.6	0.84	-97.6	0.72	-99.1	0.53	-102.3	0.15	-135.7
6	0.91	-115.4	0.84	-116.7	0.73	-118.7	0.53	-122.9	0.18	-160.9
7	0.91	-131	0.84	-132.3	0.73	-134.1	0.54	-138.1	0.2	-168.8
8	0.91	-143	0.84	-144.5	0.73	-146.8	0.55	-150.5	0.81	179.4
9	0.91	-155.6	0.83	-150.2	0.71	-159.7	0.53	-163.9	0.18	179.4
10	0.9	-167.3	0.83	-169.7	0.71	-178.8	0.51	-175.8	0.14	151.2
11	0.89	175.5	0.8	172.6	0.7	170	0.45	164.9	0.09	105.5
12	0.88	175.5	0.76	146.5	0.62	142.8	0.39	134.2	0.14	43.6

S₁₁ = (f, I) BAT15-099

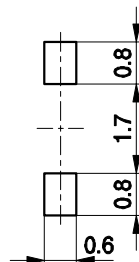


EHD07083

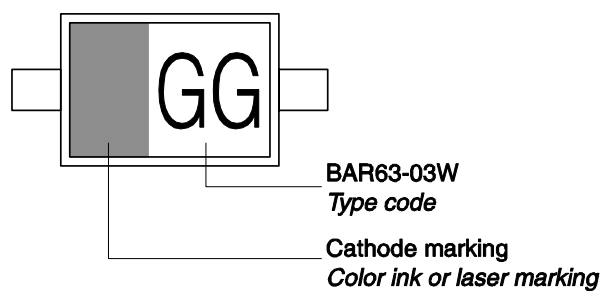
Package Outline



Foot Print

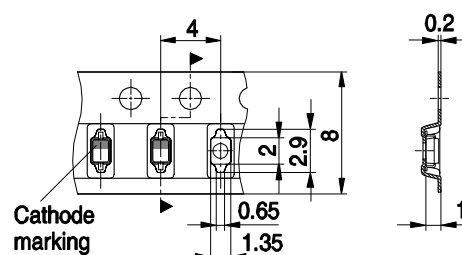


Marking Layout (Example)

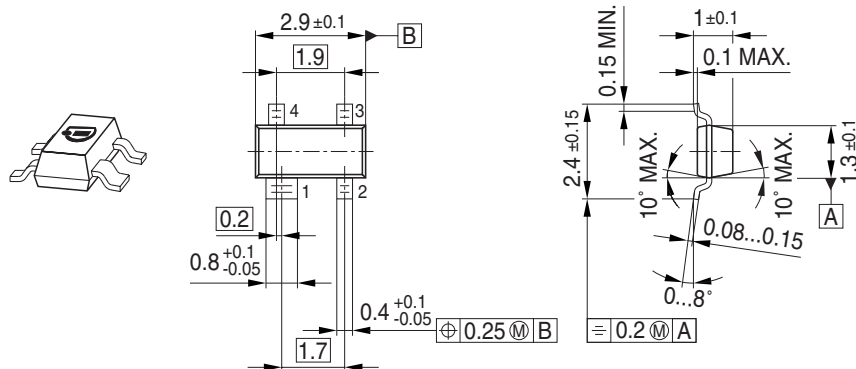


Standard Packing

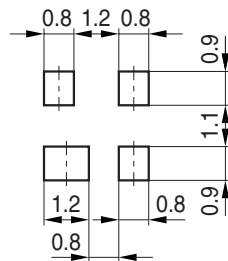
Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



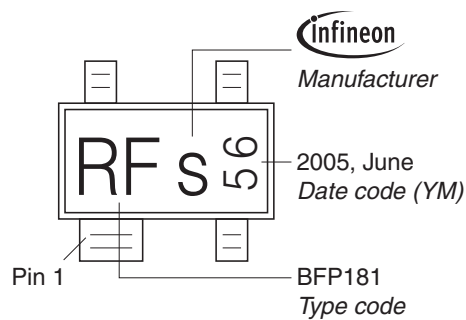
Package Outline



Foot Print

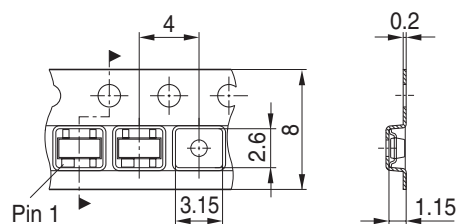


Marking Layout (Example)

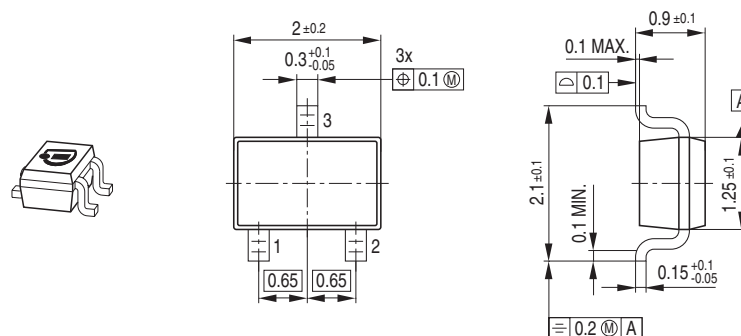


Standard Packing

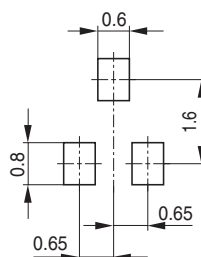
Reel $\phi 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\phi 330 \text{ mm}$ = 10.000 Pieces/Reel



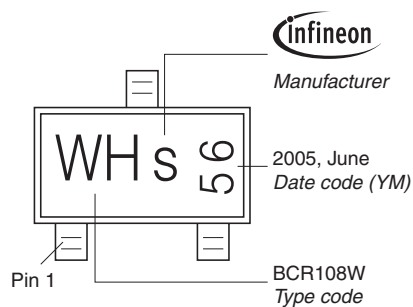
Package Outline



Foot Print

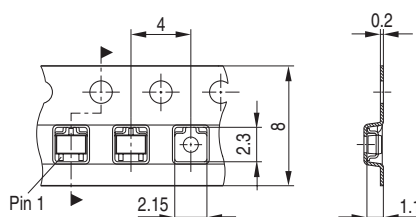


Marking Layout (Example)

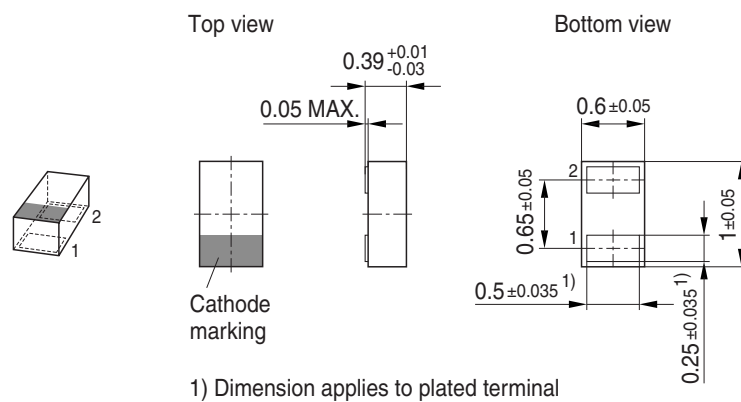


Standard Packing

Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel

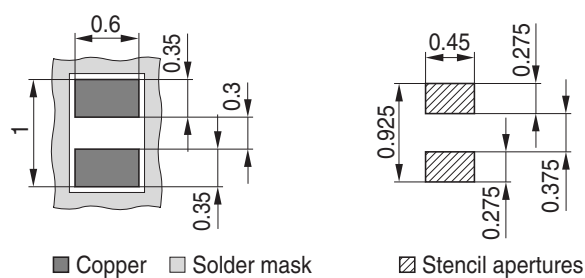


Package Outline

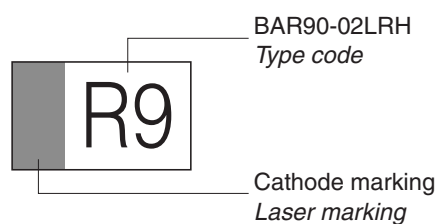


Foot Print

For board assembly information please refer to Infineon website "Packages"

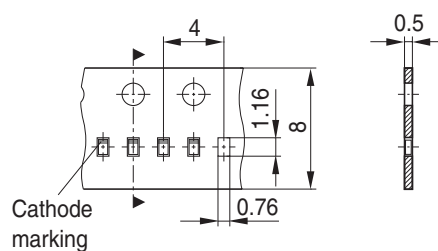


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
Reel ø330 mm = 50.000 Pieces/Reel (optional)



Technical drawing of a 2x2 grid of rectangular features. The overall width is $4 \times 0.25 \pm 0.035$ (labeled 1). The overall height is $4 \times 0.35 \pm 0.035$ (labeled 1). The distance between the centers of the features in the horizontal direction is 0.8 ± 0.05 . The distance between the centers of the features in the vertical direction is 0.75 ± 0.05 . The width of each individual feature is 0.45 ± 0.05 . The height of each individual feature is 1.2 ± 0.05 . The features are labeled 1, 2, 3, and 4 in a 2x2 grid.

 Stencil apertures

Technical drawing of a mechanical part. The main view shows a rectangular part with a width of 8 and a height of 1.45. There are four circular features (holes) arranged in a 2x2 grid. The distance between the centers of the holes is 4. The distance from the left edge to the center of the first hole is 1.05. A label 'Pin 1 marking' points to the first hole. A cross-section view on the right shows a rectangular part with a width of 0.5 and a height of 1.45. The cross-section is divided into three regions: a hatched region on the left, a white region in the middle, and a hatched region on the right.

Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office ([<www.infineon.com>](http://www.infineon.com)).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru