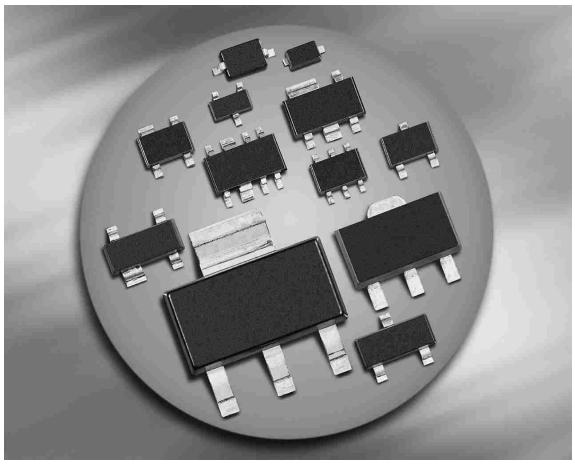
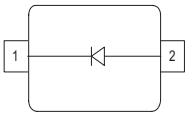
Silicon Schottky Diode

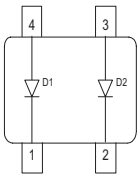
- Low barrier diode for detectors up to GHz frequencies
- For high-speed applications
- Zero bias detector diode
- Pb-free (RoHS compliant) package

RoHS



BAT63-02V **BAT63-07W**





ESD (**E**lectro**s**tatic **d**ischarge) sensitive device, observe handling precaution!

Type	Package	Configuration	L_S(nH)	Marking
BAT63-02V	SC79	single	0.6	d
BAT63-07W	SOT343	parallel pair	1.6	63s

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	3	V
Forward current	I_F	100	mA
Total power dissipation	P_{tot}		mW
T_S ≤ 120°C, BAT63-02V		100	
T_S ≤ 114°C, BAT63-07W		100	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}		K/W
BAT63-02V		≤ 295	
BAT63-07W		≤ 355	

Electrical Characteristics at T_A = 25°C, unless otherwise specified

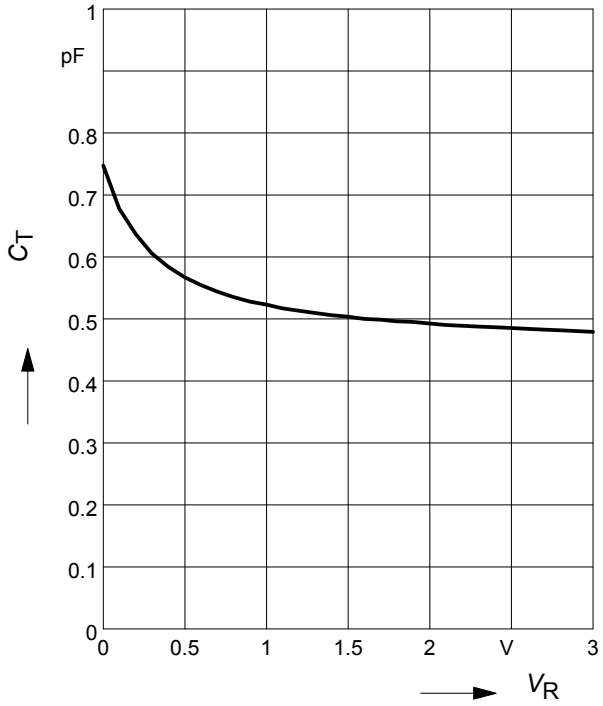
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 3 V	I_R	-	-	10	µA
Forward voltage I_F = 1 mA	V_F	-	190	300	mV
Forward voltage matching[2)] I_F = 1 mA	ΔV_F	-	-	20	
AC Characteristics					
Diode capacitance V_R = 0.2 V, f = 1 MHz	C_T	-	0.65	0.85	pF
Differential resistance V_R = 0 , f = 10 kHz	R_0	-	30	-	kΩ

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

[2]ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

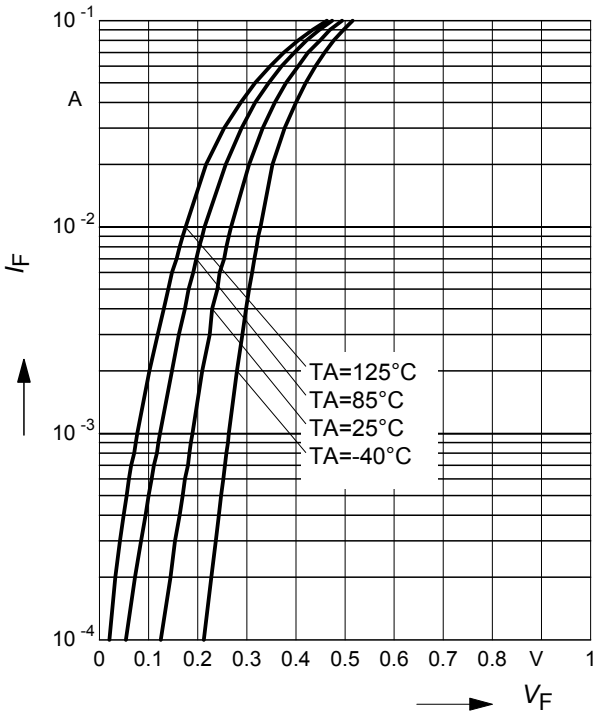
Diode capacitance $C_T = f(V_R)$

f = 1MHz



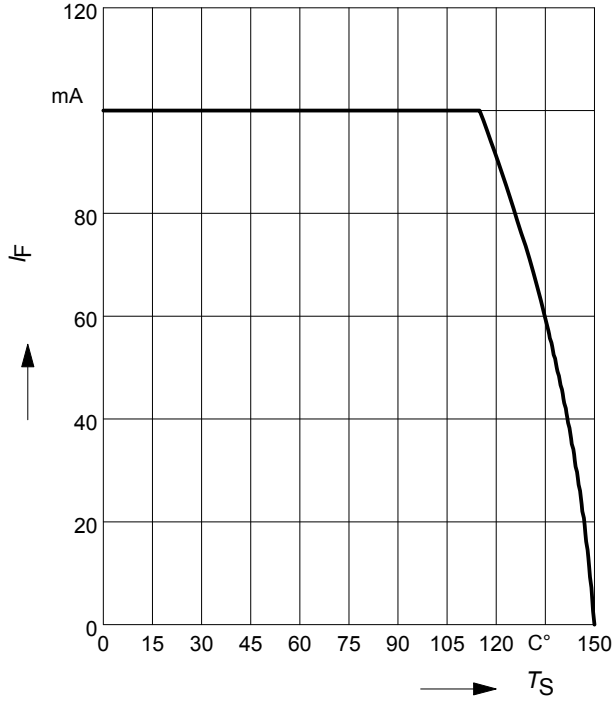
Forward current $I_F = f(V_F)$

T_A = Parameter



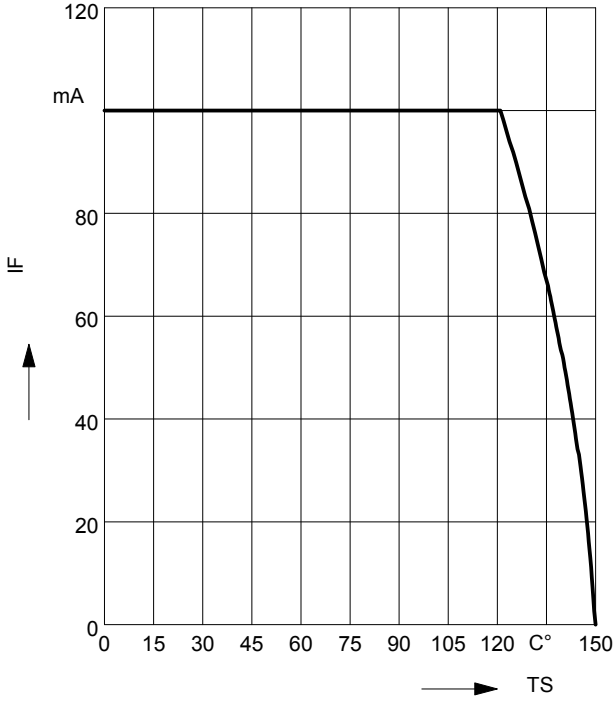
Forward current $I_F = f(T_S)$

BAT63-07W



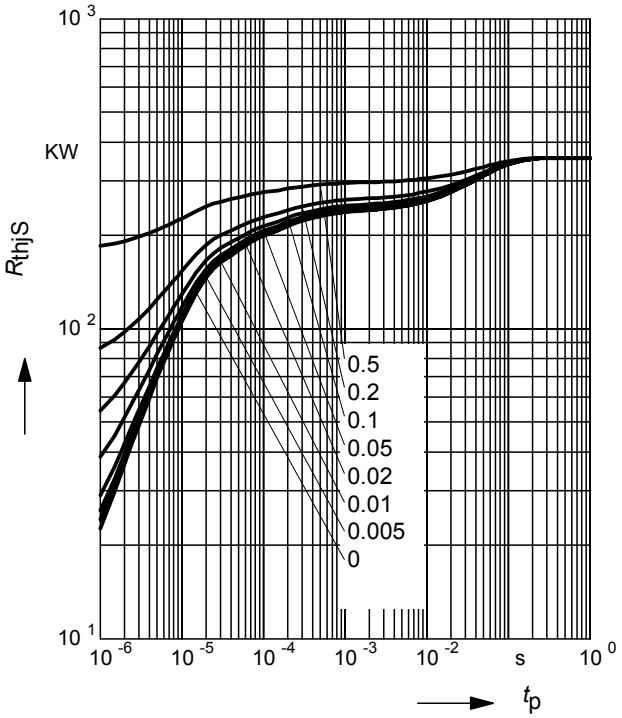
Forward current $I_F = f(T_S)$

BAT63-02V



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

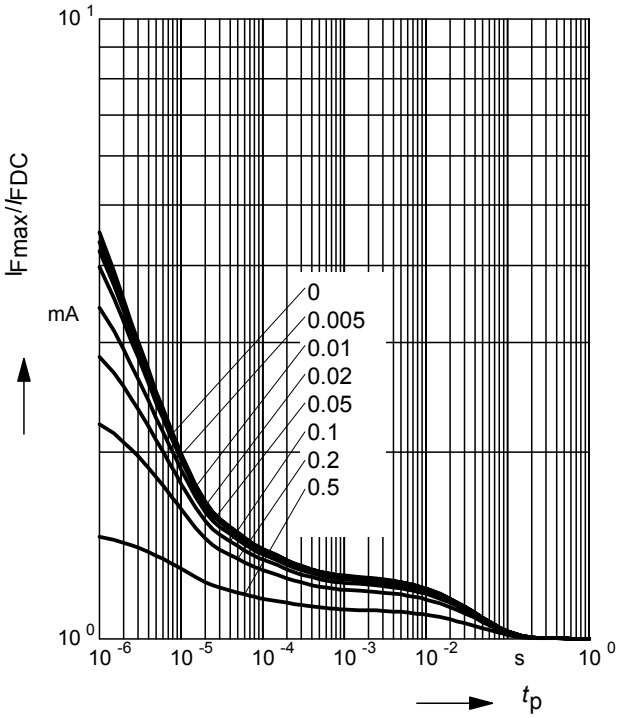
BAT63-07W



Permissible Pulse Load

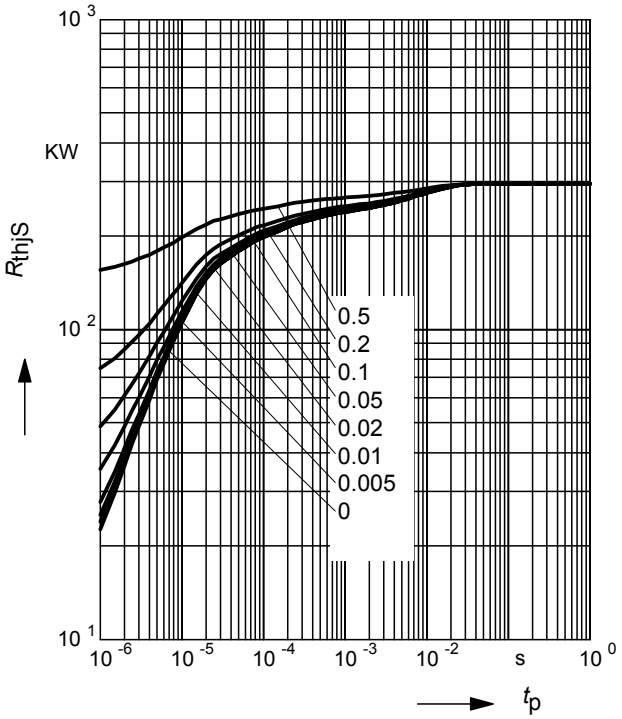
$I_{Fmax}/I_{FDC} = f(t_p)$

BAT63-07W



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

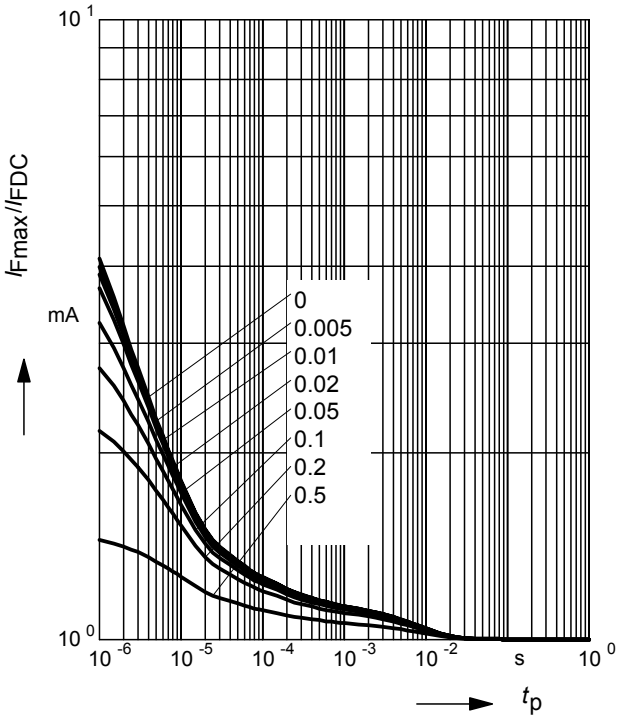
BAT63-02V



Permissible Pulse Load

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

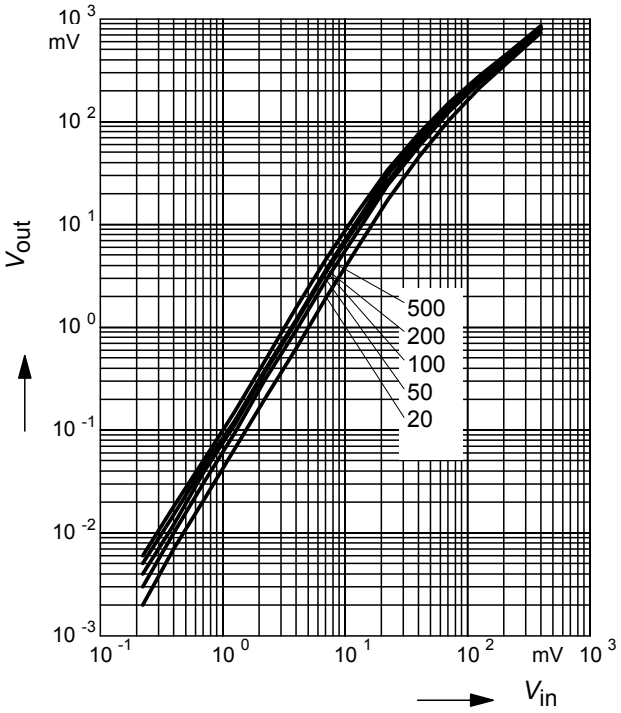
BAT63-02V



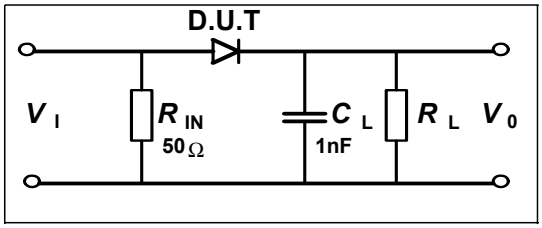
Rectifier voltage $V_{out} = f(V_{in})$

f = 2.4GHz

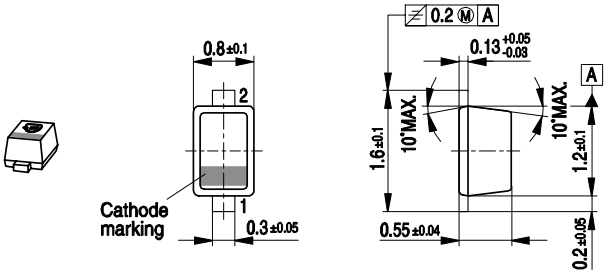
R_L = Parameter in kΩ



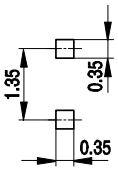
Testcircuit



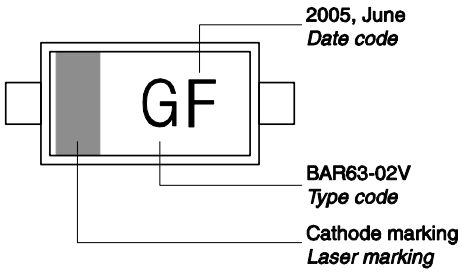
Package Outline



Foot Print

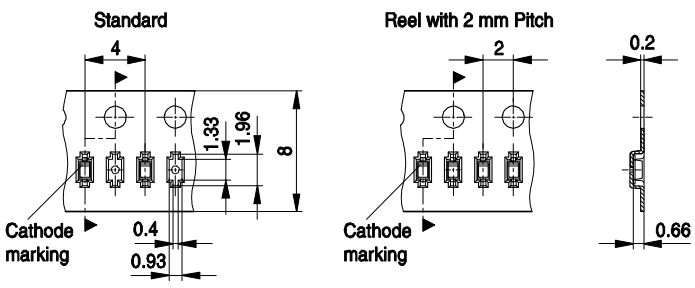


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
Reel ø330 mm = 10.000 Pieces/Reel

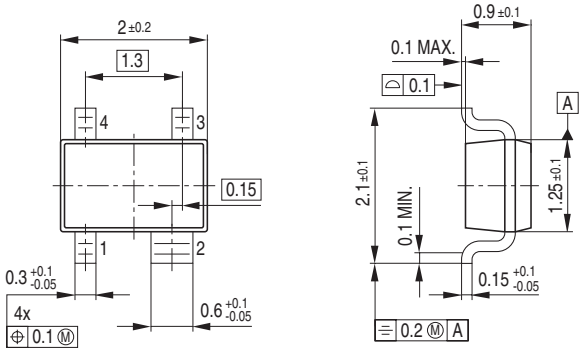


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1)]) CES-Code

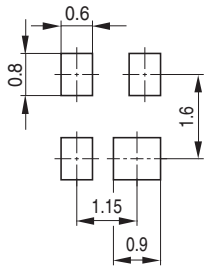
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	j	y	J	Y
10	k	z	K	Z	k	z	K	Z	k	z	K	Z
11	l	2	L	4	l	2	L	4	l	2	L	4
12	n	3	N	5	n	3	N	5	n	3	N	5

1) New Marking Layout for SC75, implemented at October 2005.

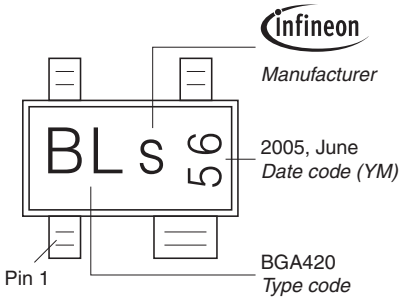
Package Outline



Foot Print



Marking Layout (Example)



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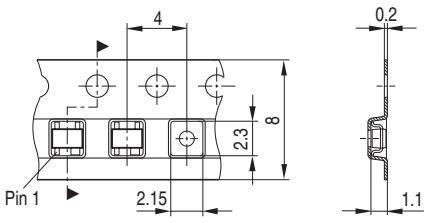

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