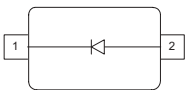


Silicon Schottky Diode

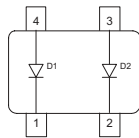
- Low barrier diode for detectors up to GHz frequencies
- For high-speed applications
- Zero bias detector diode
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



BAT63-02V



BAT63-07W



ESD (Electrostatic discharge) 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

* Preliminary data

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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
$T_S \leq tbd^\circ\text{C}$, BAT63-02V		100	
$T_S \leq 103^\circ\text{C}$, BAT63-07W		100	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

¹Pb-containing package may be available upon special request

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾ BAT63-02V BAT63-07W	R_{thJS}	tbd ≤ 470	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Reverse current $V_R = 3\text{ V}$	I_R	-	-	10	μA
Forward voltage $I_F = 1\text{ mA}$	V_F	-	190	300	mV
Forward voltage matching ²⁾ $I_F = 1\text{ mA}$	ΔV_F	-	-	20	

AC Characteristics

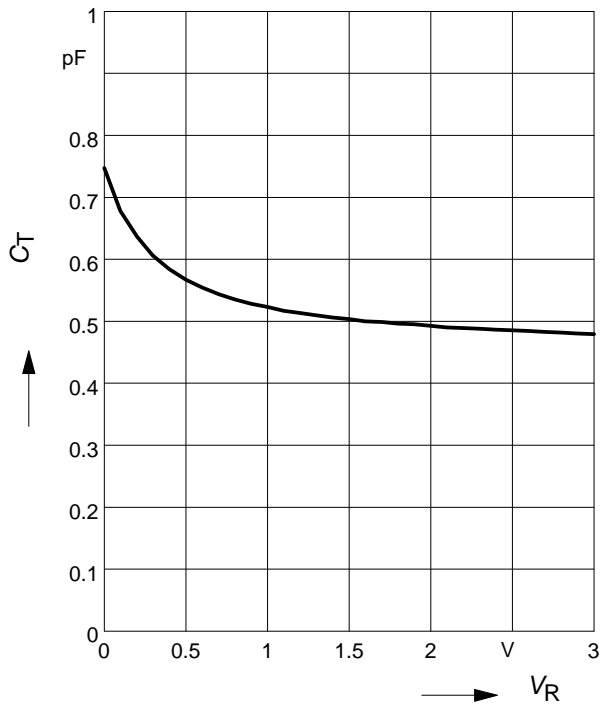
Diode capacitance $V_R = 0.2\text{ V}$, $f = 1\text{ MHz}$	C_T	-	0.65	0.85	pF
Differential resistance $V_R = 0$, $f = 10\text{ kHz}$	R_0	-	30	-	k Ω

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.

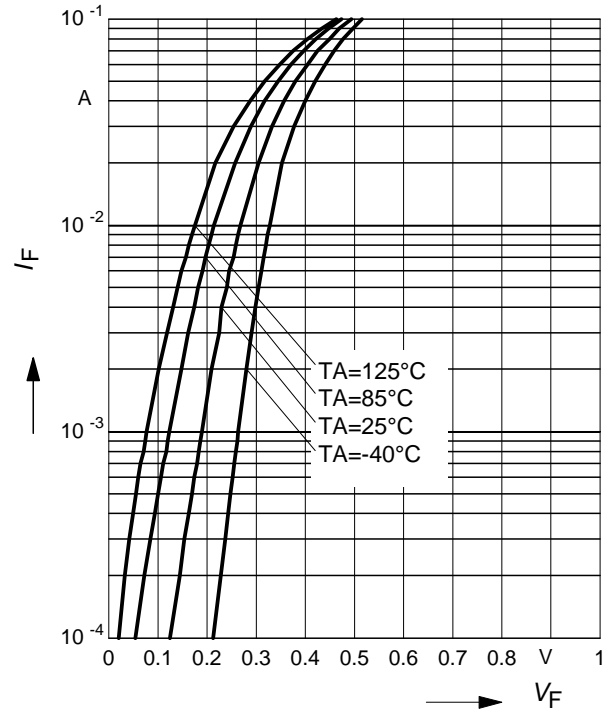
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

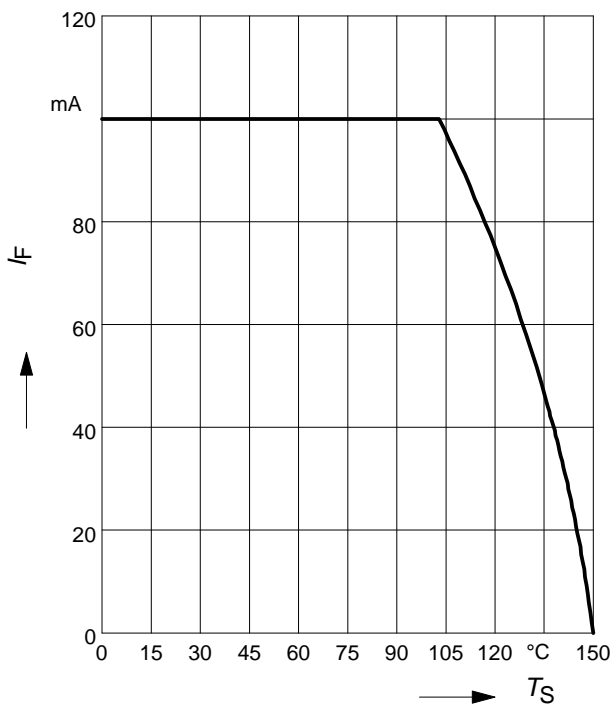


Forward current $I_F = f(V_F)$

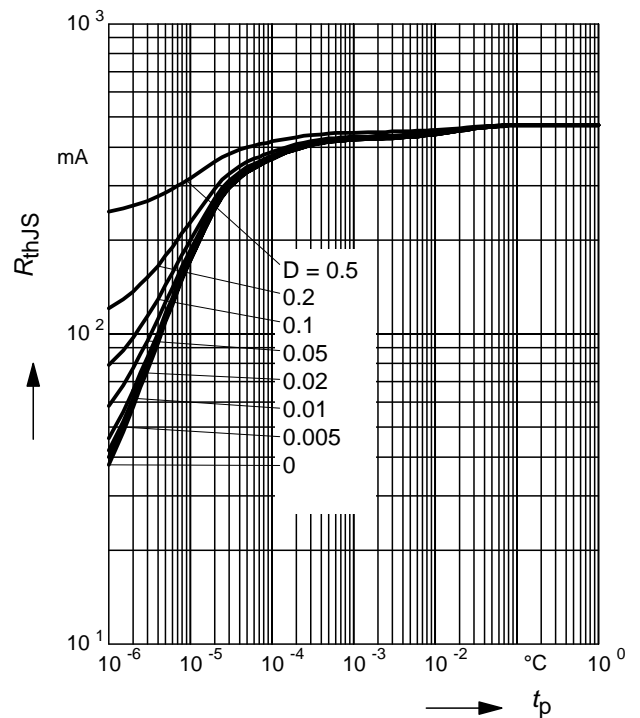
$T_A = \text{Parameter}$



Forward current $I_F = f(T_S)$

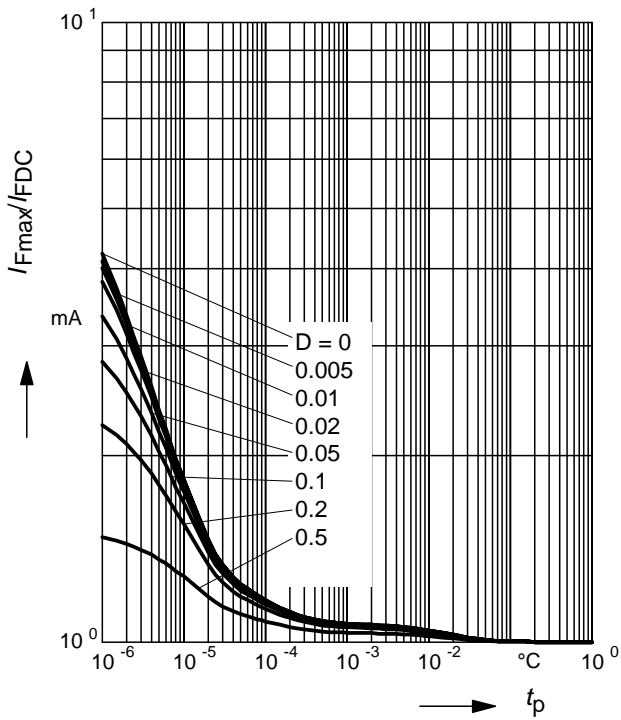


Permissible Puls Load $R_{thJS} = f(t_p)$



Permissible Pulse Load

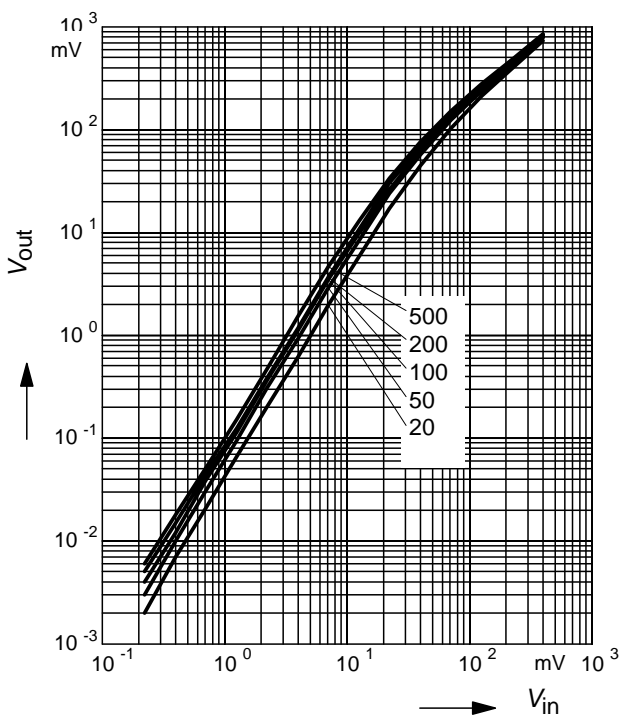
$$I_{Fmax} / I_{FDC} = f(t_p)$$



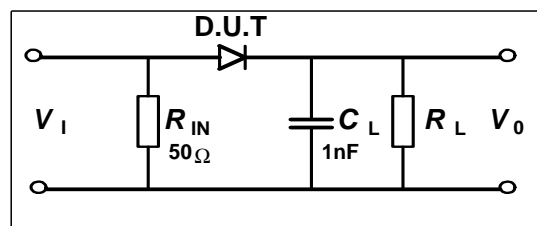
Rectifier voltage $V_{out} = f(V_{in})$

$$f = 2.4GHz$$

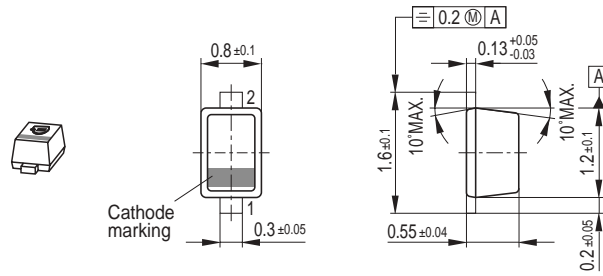
$R_L =$ Parameter in $k\Omega$



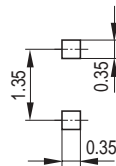
Testcircuit



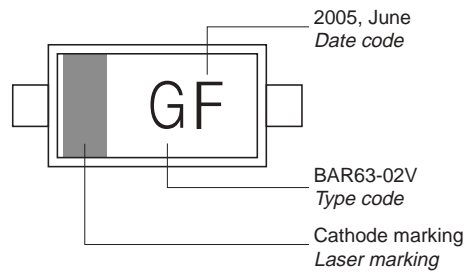
Package Outline



Foot Print

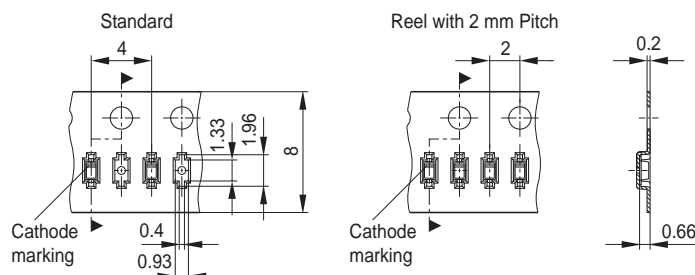


Marking Layout (Example)



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

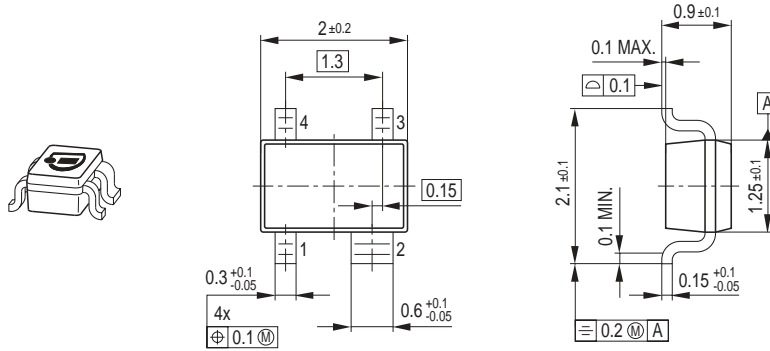


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

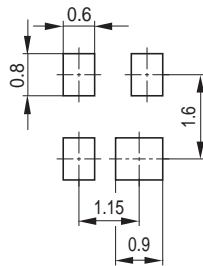
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	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.

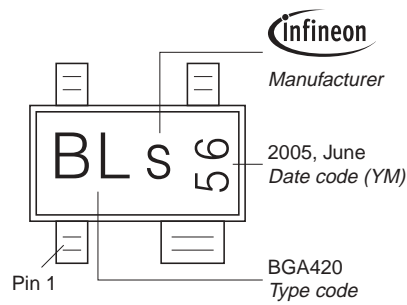
Package Outline



Foot Print

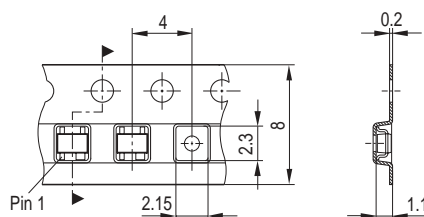


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø330 mm = 10.000 Pieces/Reel



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