



BAS16VY-Q

High-speed switching diode

16 July 2026

Product data sheet

1. General description

High-speed switching diode, encapsulated in a very small SOT363-3 (SC-88) Surface-Mounted Device (SMD) plastic package.

2. Features and benefits

- High switching speed: $t_{rr} \leq 4$ ns
- Low capacitance
- Low leakage current
- Reverse voltage: $V_R \leq 100$ V
- Repetitive peak reverse voltage: $V_{RRM} \leq 100$ V
- Qualified according to AEC-Q101 and recommended for use in automotive applications

3. Applications

- High-speed switching
- General-purpose switching

4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Per diode						
V_R	reverse voltage		-	-	100	V
I_R	reverse current	$V_R = 80$ V; $T_{amb} = 25$ °C	-	-	0.5	μ A
t_{rr}	reverse recovery time	$I_F = 10$ mA; $I_R = 10$ mA; $R_L = 100$ Ω ; $I_{R(meas)} = 1$ mA; $T_{amb} = 25$ °C	-	-	4	ns

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	A1	anode (diode 1)	Transparent top view TSSOP6 (SOT363-3)	006aab106
2	A2	anode (diode 2)		
3	A3	anode (diode 3)		
4	K3	cathode (diode 3)		
5	K2	cathode (diode 2)		
6	K1	cathode (diode 1)		

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
BAS16VY-Q	TSSOP6	Plastic surface-mounted package; 6 leads	SOT363-3

7. Marking

Table 4. Marking codes

Type number	Marking code[1]
BAS16VY-Q	16%

[1] % = placeholder for manufacturing site code

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions		Min	Max	Unit
Per diode						
V _{RRM}	repetitive peak reverse voltage			-	100	V
V _R	reverse voltage			-	100	V
I _F	forward current		[1] [2]	-	200	mA
I _{FSM}	non-repetitive peak forward current	t _p = 1 μs; square wave; T _{j(init)} = 25 °C		-	4	A
		t _p = 1 ms; square wave; T _{j(init)} = 25 °C		-	1	A
		t _p = 1 s; square wave; T _{j(init)} = 25 °C		-	0.5	A
I _{FRM}	repetitive peak forward current	t _p ≤ 0.5 ms; δ ≤ 0.25		-	500	mA
P _{tot}	total power dissipation	T _{sp} ≤ 85 °C	[1] [2] [3]	-	250	mW
Per device						
T _j	junction temperature			-	150	°C
T _{amb}	ambient temperature			-65	150	°C
T _{stg}	storage temperature			-65	150	°C

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

[2] Single diode loaded.

[3] Soldering points at pins 4, 5 and 6.

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
R _{th(j-sp)}	thermal resistance from junction to solder point		[1] [2]	-	-	260	K/W

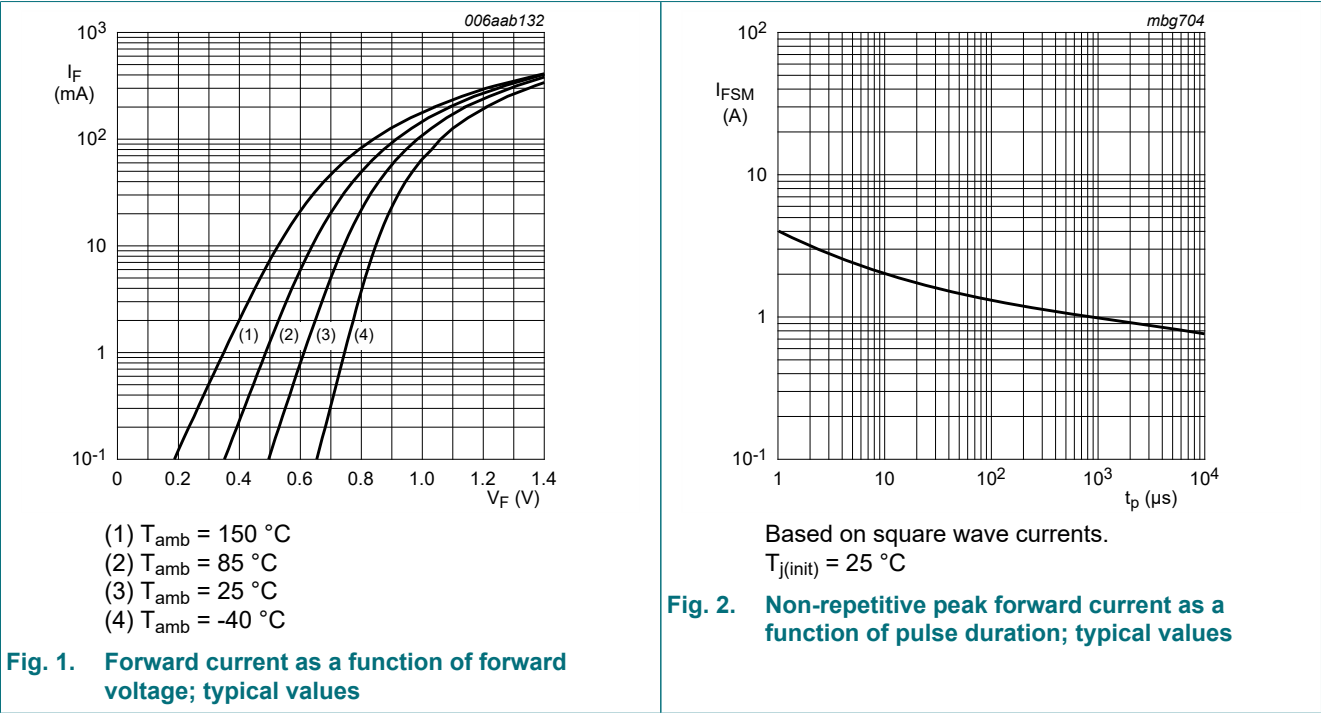
[1] Single diode loaded.

[2] Soldering points at pins 4, 5 and 6.

10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
Per diode							
V _F	forward voltage	I _F = 1 mA; t _p ≤ 300 μs; δ ≤ 0.02; pulsed; T _{amb} = 25 °C		-	-	715	mV
		I _F = 10 mA; t _p ≤ 300 μs; δ ≤ 0.02; pulsed; T _{amb} = 25 °C		-	-	855	mV
		I _F = 50 mA; t _p ≤ 300 μs; δ ≤ 0.02; pulsed; T _{amb} = 25 °C		-	-	1	V
		I _F = 150 mA; t _p ≤ 300 μs; δ ≤ 0.02; pulsed; T _{amb} = 25 °C		-	-	1.25	V
I _R	reverse current	V _R = 25 V; T _{amb} = 25 °C		-	-	30	nA
		V _R = 80 V; T _{amb} = 25 °C		-	-	0.5	μA
		V _R = 25 V; T _j = 150 °C		-	-	30	μA
		V _R = 80 V; T _j = 150 °C		-	-	50	μA
C _d	diode capacitance	V _R = 0 V; f = 1 MHz; T _{amb} = 25 °C		-	-	1.5	pF
t _{rr}	reverse recovery time	I _F = 10 mA; I _R = 10 mA; R _L = 100 Ω; I _{R(meas)} = 1 mA; T _{amb} = 25 °C		-	-	4	ns
V _{FRM}	peak forward recovery voltage	I _F = 10 mA; t _r = 20 ns; T _{amb} = 25 °C		-	-	1.75	V



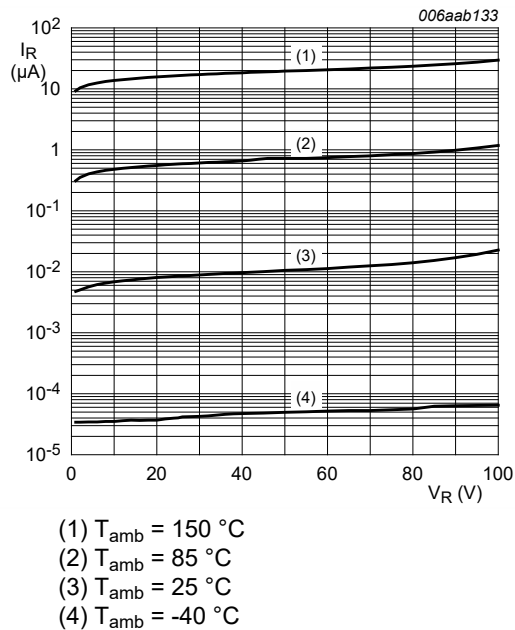


Fig. 3. Reverse current as a function of reverse voltage; typical values

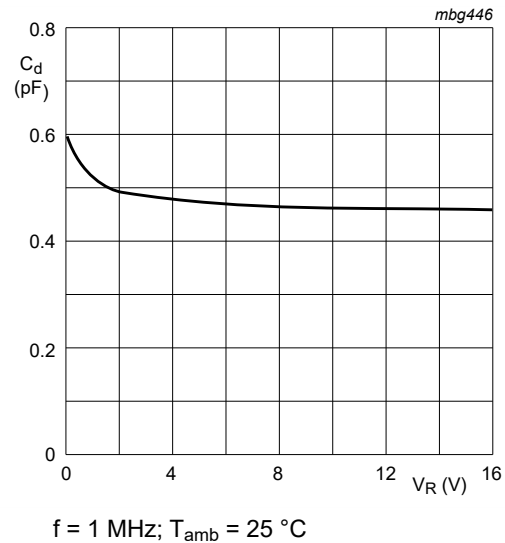
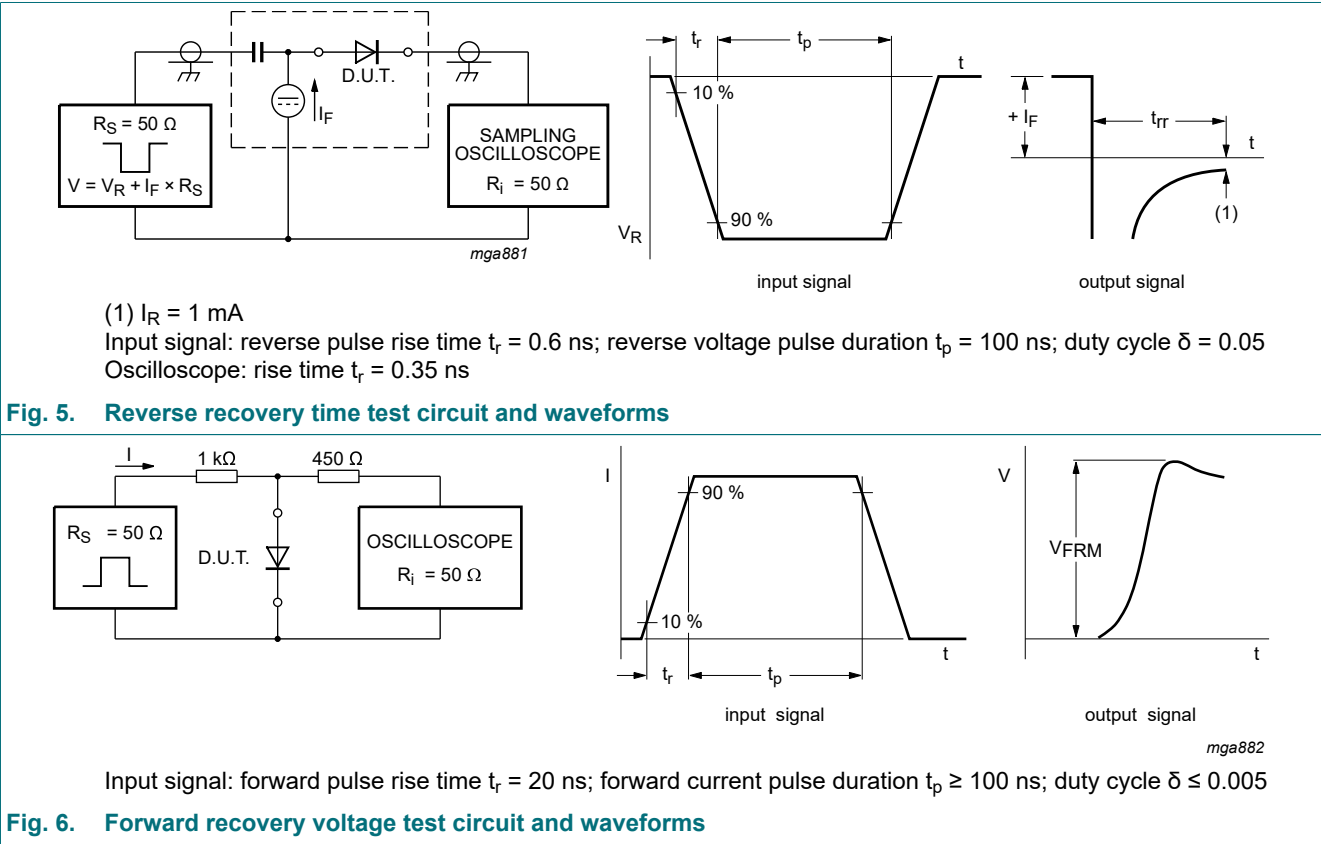


Fig. 4. Diode capacitance as a function of reverse voltage; typical values

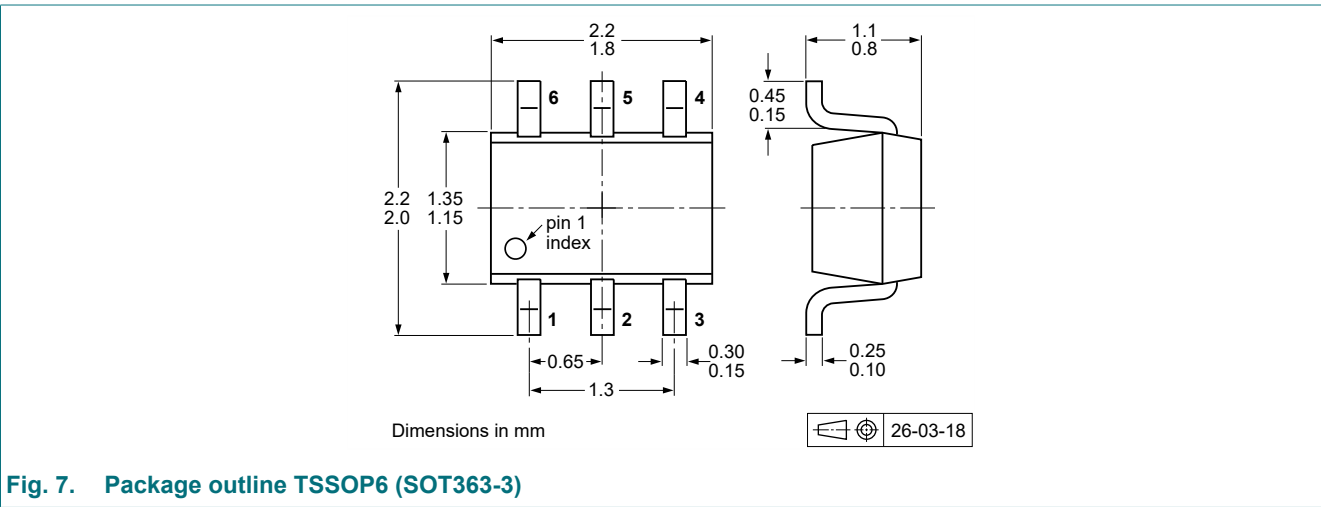
11. Test information



Quality information

This product has been qualified in accordance with the Automotive Electronics Council (AEC) standard Q101 - *Stress test qualification for discrete semiconductors*, and is suitable for use in automotive applications.

12. Package outline



14. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
BAS16VY-Q v.2	20260716	Product data sheet	-	BAS16VY-Q v.1
Modifications:	Package changed from SOT363 to SOT363-3			
BAS16VY-Q v.1	20210616	Product data sheet	-	-

15. Legal information

Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

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