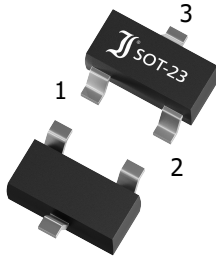


BAS40, BAS40-04, BAS40-05, BAS40-06
SMD Small Signal Schottky Diodes
SMD Kleinsignal-Schottky-Dioden
 $I_{FAV} = 200 \text{ mA}$
 $V_{F1mA} < 0.38 \text{ V}$
 $T_{jmax} = 150^\circ\text{C}$
 $V_{RRM} = 40 \text{ V}$
 $I_{FSM} = 600 \text{ mA}$
 $t_{rr} < 5 \text{ ns}$

Version 2024-03-15

SOT-23
TO-236
SPICE Model & STEP File ¹⁾**Marking Code**

See below 'XX' | Siehe unten 'XX'

HS Code 85411000**Typical Applications**

Signal processing, High-speed switching, Polarity protection
 Suffix -C: Commercial grade ¹⁾
 No suffix: Industrial grade ¹⁾
 Suffix -Q: AEC-Q101 compliant ¹⁾
 Suffix -AQ: AEC-Q101 qualified ¹⁾

Features

Very high switching speed
 Low junction capacitance
 Low leakage current
 Compliant to RoHS (w/o exemp.), REACH, Conflict Minerals ¹⁾

Mechanical Data ¹⁾

Taped and reeled
 Weight approx.
 Solder & assembly conditions



3000 / 7"
 0.01 g
 260°C/10s
 MSL = 1

Typische Anwendungen

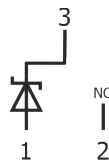
Signalverarbeitung, Schnelles Schalten, Verpolschutz
 Suffix -C: Standardausführung ¹⁾
 Kein Suffix: Industriequalität ¹⁾
 Suffix -Q: AEC-Q101 konform ¹⁾
 Suffix -AQ: AEC-Q101 qualifiziert ¹⁾

Besonderheiten

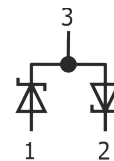
Extrem schnelles Schalten
 Niedrige Sperrschicht-Kapazität
 Niedriger Sperrstrom
 Konform zu RoHS (ohne Ausn.), REACH, Konfliktmineralien ¹⁾

Mechanische Daten ¹⁾

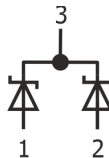
Gegurtet auf Rolle
 Gewicht ca.
 Löt- und Einbaubedingungen

BAS40/-Q/-AQ
'43'


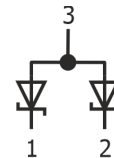
Single Diode

BAS40-04/-Q/-AQ
'44'


Series Connection

BAS40-05/-Q
'45'


Common Cathode

BAS40-06/-C
'46'


Common Anode

Maximum ratings ¹⁾**Grenzwerte ²⁾**

Power dissipation – Verlustleistung ²⁾	Commercial (-C) Industrial (-I) / AEC-Q101 (-Q/-AQ)	P_{tot}	200 mW ³⁾ 310 mW ³⁾
Max. average forward current – Dauergrenzstrom	DC	I_{FAV}	200 mA ⁴⁾
Repetitive peak forward current – Periodischer Spitzenstrom		I_{FRM}	300 mA ⁴⁾
Non repetitive peak forward surge current – Stoßstrom-Grenzwert	$t_p \leq 1 \text{ s}$	I_{FSM}	600 mA
Repetitive peak reverse voltage – Periodische Spitzensperrspannung		V_{RRM}	40 V
Reverse voltage – Sperrspannung	DC	V_R	40 V
Junction temperature – Sperrschichttemperatur	Commercial (-C) Industrial (-I) / AEC-Q101 (-Q/-AQ)	T_j	-55...+125°C -55...+150°C
Storage temperature – Lagerungstemperatur		T_s	-55...+150°C

1 Please note the [detailed information on our website](#) or at the beginning of the data bookBitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches1 $T_A = 25^\circ\text{C}$ and per diode, unless otherwise specified – $T_A = 25^\circ\text{C}$ und pro Diode, wenn nicht anders angegeben

2 Total power dissipation per device (single or both diodes loaded)

Gesamtverlustleistung pro Bauteil (eine oder beide Dioden belastet)

3 Mounted on PCB with 3 mm² copper pad per each terminal – Montage auf Leiterplatte mit 3 mm² Lötpad je Anschluss

Characteristics

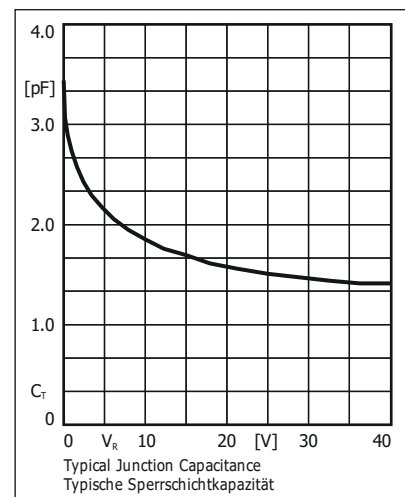
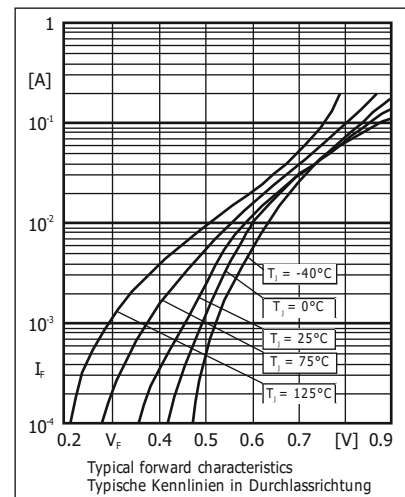
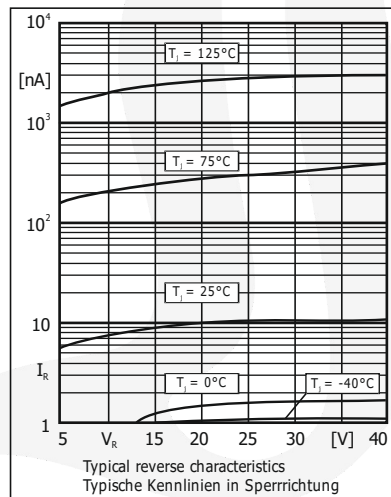
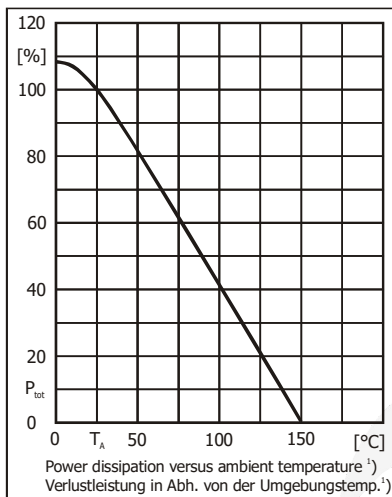
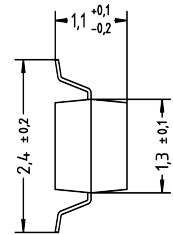
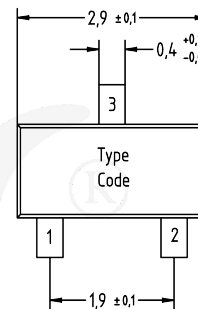
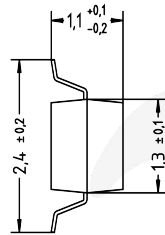
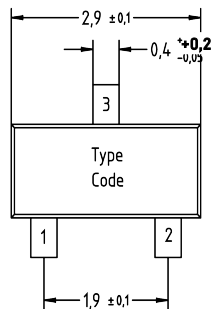
Kennwerte

Forward voltage Durchlass-Spannung	$T_J = 25^\circ\text{C}$	$I_F = 1\text{ mA}$ $I_F = 40\text{ mA}$	V_F	$< 380\text{ mV}$ $< 1000\text{ mV}$
Leakage current – Sperrstrom	$T_J = 25^\circ\text{C}$	$V_R = 30\text{ V}$	I_R	$< 200\text{ nA}^{1)}$
Breakdown voltage – Abbruch-Spannung	$T_J = 25^\circ\text{C}$	$I_R = 10\text{ }\mu\text{A}$	V_{BR}	$> 40\text{ V}^{1)}$
Junction capacitance – Sperrschichtkapazität	$V_R = 0\text{ V}, f = 1\text{ MHz}$		C_T	$< 5\text{ pF}$
Reverse recovery time – Sperrverzug	$I_F = 10\text{ mA} \rightarrow I_R = 10\text{ mA} \rightarrow I_R = 1\text{ mA}$		t_{rr}	$< 5\text{ ns}$
Typical thermal resistance junction to ambient Typischer Wärmewiderstand Sperrschicht – Umgebung	Commercial (-C) Industrial (-I) / AEC-Q101 (-Q/-AQ)		R_{thA}	$500\text{ K/W}^{2)}$ $400\text{ K/W}^{2)}$

Commercial grade (-C)

Dimensions – Maße [mm]

Industrial (-I) / AEC-Q101 grade (-Q / -AQ)



Disclaimer: See data book page 2 or [website](#)

Haftungsschluss: Siehe Datenbuch Seite 2 oder [Internet](#)

1 Tested with pulses $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\text{ }\mu\text{s}$, Schaltverhältnis $\leq 2\%$

2 Per device, mounted on PCB with 3 mm^2 copper pad per terminal – Pro Bauteil, Montage mit 3 mm^2 Lötpad je Anschluss

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Diotec Semiconductor:](#)

[BAS40-05](#) [BAS40](#) [BAS40-AQ](#) [BAS40-06](#) [BAS40-04](#)