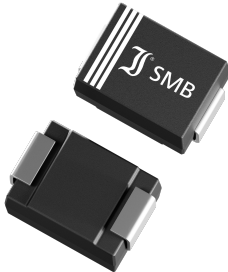


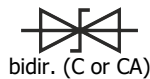
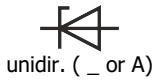
1.0SMBJ5.0A ... 1.0SMBJ120CA SMD Transient Voltage Suppressor Diodes SMD Spannungs-Begrenzer-Dioden	P_{PPM} = 1000 W P_{M(AV)} = 5.0 W T_{jmax} = 150°C	V_{WM} = 5.0 ... 120 V V_{BR min} = 6.4 ... 133 V
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Version 2021-11-15

SMB
~ DO-214AA



SPICE Model & STEP File ¹⁾



Marking

V_{BR} only. Cathode mark only at unidirectional types

Nur V_{BR}. Kathoden-Markierung nur bei unidirektionalen Typen

HS Code 85411000

Typical Applications

- Over-voltage protection
- ESD protection
- Free-wheeling diodes
- Commercial /industrial grade
- Suffix -Q: AEC-Q101 compliant ¹⁾
- Suffix -AQ: in AEC-Q101 qualification ¹⁾

Features

- Uni- and Bidirectional versions
- Peak pulse power of 1000 W (10/1000 μs waveform)
- Very fast response time
- Compliant to RoHS (exemp. 7a), REACH, Conflict Minerals ¹⁾



Mechanical Data ¹⁾

- Taped and reeled 3000 / 13"
- Weight approx. 0.1 g
- Case material UL 94V-0
- Solder & assembly conditions 260°C/10s
- MSL = 1

Typische Anwendungen

- Schutz gegen Überspannung
- ESD-Schutz
- Freilauf-Dioden
- Standardausführung
- Suffix -Q: AEC-Q101 konform ¹⁾
- Suffix -AQ: in AEC-Q101 Qualifikation ¹⁾

Besonderheiten

- Uni- und Bidirektionale Versionen
- 1000 W Impuls-Verlustleistung (10/1000 μs Strom-Impuls)
- Sehr schnelle Ansprechzeit
- Konform zu RoHS (Ausn. 7a), REACH, Konfliktminerale ¹⁾

Mechanische Daten ¹⁾

- Gegurtet auf Rolle
- Gewicht ca.
- Gehäusematerial
- Löt- und Einbaubedingungen

For bidirectional types (suffix "CA"), electrical characteristics apply in both directions.
Für bidirektionale Dioden (mit Suffix "CA") gelten die elektrischen Werte in beiden Richtungen.

Maximum ratings ²⁾

Grenzwerte ²⁾

Peak pulse power dissipation (10/1000 μs waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 μs)	T _A = 25°C	P _{PPM}	1000 W ³⁾
Steady state power dissipation – Verlustleistung im Dauerbetrieb	T _T = 75°C	P _{M(AV)}	5 W
Peak forward surge current Stoßstrom in Fluss-Richtung	Half sine-wave Sinus-Halbwellen 60 Hz (8.3 ms)	I _{FSM}	100 A ⁴⁾
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T _j T _S	-50...+150°C -50...+150°C

Characteristics

Kennwerte

Max. instantaneous forward voltage Augenblickswert der Durchlass-Spannung	I _F = 25 A V _{BR} ≤ 50 V	V _F	< 3.5 V ⁴⁾
Typ. thermal resistance junction to ambient – Typ. Wärmewiderstand Sperrschicht-Umgebung Typ. thermal resistance junction to terminal – Typ. Wärmewiderstand Sperrschicht-Anschluss		R _{thA} R _{thT}	45 K/W ⁵⁾ 15 K/W

1 Please note the [detailed information on our website](#) or at the beginning of the data book
Bitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches

2 T_A = 25°C unless otherwise specified – T_A = 25°C wenn nicht anders angegeben

3 Non-repetitive pulse see curve I_{pp} = f (t) / P_{pp} = f (t)
Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve I_{pp} = f (t) / P_{pp} = f (t)

4 Unidirectional diodes only – Nur für unidirektionale Dioden

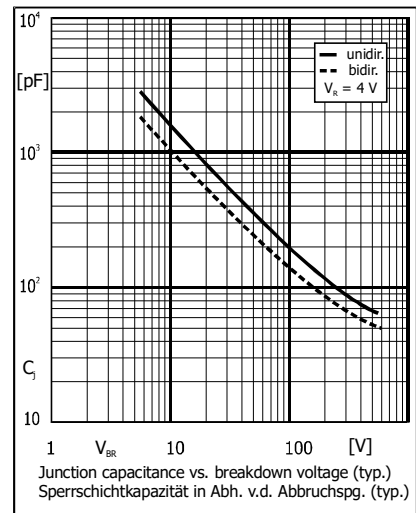
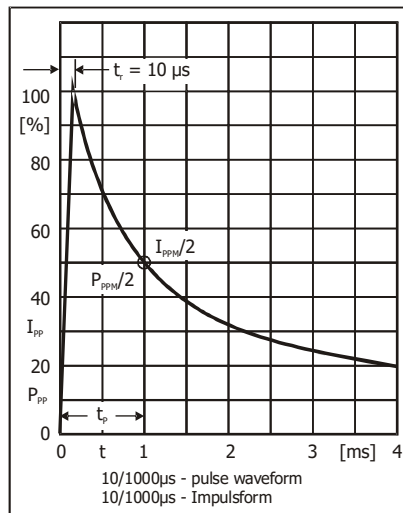
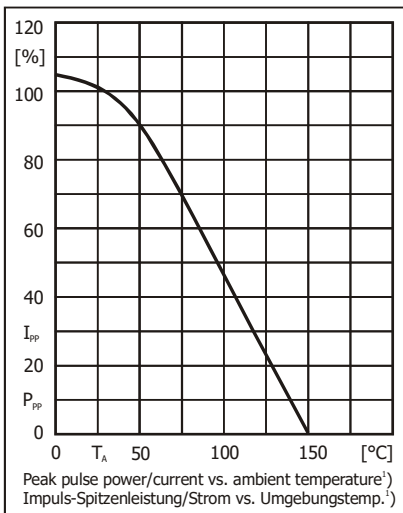
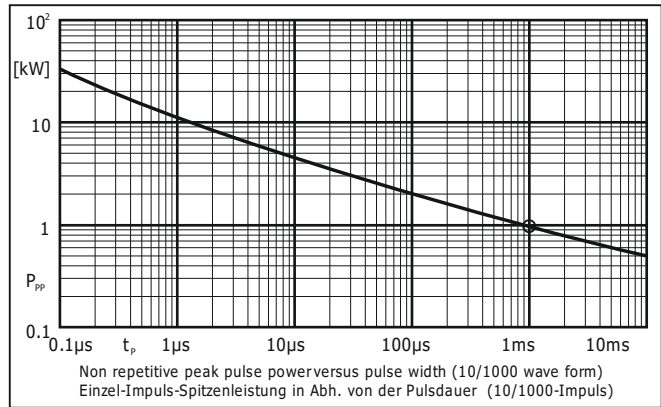
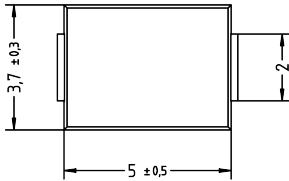
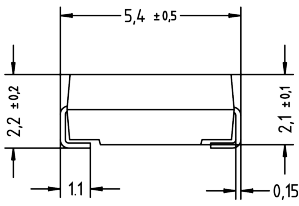
5 Mounted on PCB with 25 mm² copper pads per terminal – Montage auf Leiterplatte mit 25 mm² Lötpad je Anschluss

Characteristics (T_j = 25°C)
Kennwerte (T_j = 25°C)

Type Typ		Stand-off voltage Sperrspannung	Max. rev. current Max. Sperrstrom at / bei V _{WM} ¹⁾	Breakdown voltage at Abbruch-Spannung bei I _T = 1 mA *) 10 mA		Max. clamping voltage Max. Begrenzer-Spannung at / bei I _{PPM} (10/1000 μs)	
unidirectional	bidirectional	V _{WM} [V]	I _D [μA]	V _{BR} min [V]	V _{BR} max [V]	V _C [V]	I _{PPM} [A]
1.0SMBJ5.0A	1.0SMBJ5.0CA	5.0	800	6.40 *)	7.00*)	9.2	108.7
1.0SMBJ6.0A	1.0SMBJ6.0CA	6.0	800	6.67 *)	7.37 *)	10.3	97.1
1.0SMBJ6.5A	1.0SMBJ6.5CA	6.5	500	7.22 *)	8.0 *)	11.2	89.3
1.0SMBJ7.0A	1.0SMBJ7.0CA	7.0	200	7.78 *)	8.6 *)	12.0	83.3
1.0SMBJ7.5A	1.0SMBJ7.5CA	7.5	100	8.33	9.21	12.9	77.5
1.0SMBJ8.0A	1.0SMBJ8.0CA	8.0	50	8.89	9.83	13.6	73.5
1.0SMBJ8.5A	1.0SMBJ8.5CA	8.5	10	9.44	10.40	14.4	69.4
1.0SMBJ9.0A	1.0SMBJ9.0CA	9.0	5	10.00	11.10	15.4	64.9
1.0SMBJ10A	1.0SMBJ10CA	10	5	11.10	12.30	17.0	58.8
1.0SMBJ11A	1.0SMBJ11CA	11	5	12.20	13.50	18.2	54.9
1.0SMBJ12A	1.0SMBJ12CA	12	5	13.30	14.70	19.9	50.3
1.0SMBJ13A	1.0SMBJ13CA	13	1	14.40	15.90	21.5	46.5
1.0SMBJ14A	1.0SMBJ14CA	14	1	15.60	17.20	23.2	43.1
1.0SMBJ15A	1.0SMBJ15CA	15	1	16.70	18.50	24.4	41.0
1.0SMBJ16A	1.0SMBJ16CA	16	1	17.8	19.70	26.0	38.5
1.0SMBJ17A	1.0SMBJ17CA	17	1	18.90	20.90	27.6	36.2
1.0SMBJ18A	1.0SMBJ18CA	18	1	20.00	22.10	29.3	34.2
1.0SMBJ20A	1.0SMBJ20CA	20	1	22.20	24.50	30.8	32.4
1.0SMBJ22A	1.0SMBJ22CA	22	1	24.40	26.90	35.5	28.2
1.0SMBJ24A	1.0SMBJ24CA	24	1	26.70	29.50	38.9	25.7
1.0SMBJ26A	1.0SMBJ26CA	26	1	28.90	31.90	42.1	23.8
1.0SMBJ28A	1.0SMBJ28CA	28	1	31.10	34.40	45.4	22.0
1.0SMBJ30A	1.0SMBJ30CA	30	1	33.30	36.80	48.4	20.7
1.0SMBJ33A	1.0SMBJ33CA	33	1	36.70	40.60	53.3	18.8
1.0SMBJ36A	1.0SMBJ36CA	36	1	40.00	44.20	58.1	17.2
1.0SMBJ40A	1.0SMBJ40CA	40	1	44.40	49.10	64.5	15.5
1.0SMBJ43A	1.0SMBJ43CA	43	1	47.80	52.80	69.4	14.4
1.0SMBJ45A	1.0SMBJ45CA	45	1	50.00	55.30	72.7	13.8
1.0SMBJ48A	1.0SMBJ48CA	48	1	53.30	58.90	77.4	12.9
1.0SMBJ51A	1.0SMBJ51CA	51	1	56.70	62.70	82.4	12.1
1.0SMBJ54A	1.0SMBJ54CA	54	1	60.00	66.30	87.1	11.5
1.0SMBJ58A	1.0SMBJ58CA	58	1	64.40	71.20	93.6	10.7
1.0SMBJ60A	1.0SMBJ60CA	60	1	66.70	73.70	96.8	10.3
1.0SMBJ64A	1.0SMBJ64CA	64	1	71.10	78.60	103	9.7
1.0SMBJ70A	1.0SMBJ70CA	70	1	77.80	86.00	113	8.8
1.0SMBJ75A	1.0SMBJ75CA	75	1	83.30	92.10	121	8.3
1.0SMBJ78A	1.0SMBJ78CA	78	1	86.70	95.80	126	7.9
1.0SMBJ85A	1.0SMBJ85CA	85	1	94.40	104	137	7.3
1.0SMBJ90A	1.0SMBJ90CA	90	1	100	111	146	6.8
1.0SMBJ100A	1.0SMBJ100CA	100	1	111	123	162	6.2
1.0SMBJ110A	1.0SMBJ110CA	110	1	122	135	177	5.6
1.0SMBJ120A	1.0SMBJ120CA	120	5	133	148	193	3.1

 1 Bi-directional types with V_{WM} ≤ 10V have double reverse current limit – Bidirektionale Typen mit V_{WM} ≤ 10V haben die doppelte Sperrstromgrenze

Dimensions - Maße [mm]



Disclaimer: See data book page 2 or [website](#)
Haftungsausschluss: Siehe Datenbuch Seite 2 oder [Internet](#)

1 Mounted on P.C. board with 50 mm² copper pads at each terminal
Montage auf Leiterplatte mit 50 mm² Kupferbelag (Lötpad) an jedem Anschluss

Mouser Electronics

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[1.0SMBJ36A](#) [1.0SMBJ5.0A](#)