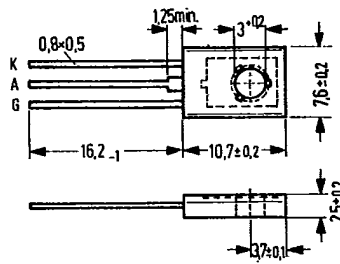


Silicon Miniature Thyristor

SIEMENS AKTIENGESELLSCHAFT 9 D T-25-11

BR 303 is a silicon planar thyristor in a TO-126 plastic package (12 A 3 DIN 41 869, sheet 4). The thyristor is especially suitable for use in switching power supplies as well as for universal applications at low and medium performance.

Type	Ordering code
BR 303	Q68000-A3436



Approx. weight 1.5 g Dimensions in mm

Maximum ratings ($T_j = -40^\circ\text{C}$ to $+125^\circ\text{C}$, $R_{GK} = 1000 \Omega$)

Neg. and pos. repetitive

peak off-state voltage

V_{RR}/V_{DR}	30	V
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Max. rms on-state current

$I_{T(rms)}$	0.8	A
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Surge on-state current

(sinusoidal pulse $t_r < 1$ ms
in accordance with DIN 41 787)

I_{TSM}	6	A
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Repetitive peak current

($t_p = 5 \mu\text{s}$, $v \leq 0.1$)

I_{TRM}	4	A
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Repetitive gate voltage

$V_{(KG)rep}$	8	V
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Storage temperature range

T_{stg}	-55 to +125	$^\circ\text{C}$
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Junction temperature

T_j	125	$^\circ\text{C}$
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Average gate power dissipation

$P_{G(AV)}$	0.1	W
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Peak gate power dissipation

P_{GP}	2	W
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Thermal resistance

Junction to ambient air

R_{thJA}	≤ 125	K/W
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Junction to case

R_{thJC}	≤ 25	K/W
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Static characteristics ($T_{\text{case}} = 25^{\circ}\text{C}$)

Continuous reverse blocking and off-state current

 $(R_{\text{GK}} = 1 \text{ k}\Omega)$ $I_{\text{R}}/I_{\text{D}} \leq 2$ μA $(R_{\text{GK}} = 1 \text{ k}\Omega; T_{\text{J}} = 125^{\circ}\text{C})$ $I_{\text{R}}/I_{\text{D}} \leq 50$ μA Holding current ($R_{\text{GK}} = 1 \text{ k}\Omega$) $I_{\text{H}} < 5$ mA Neg. gate current ($t_{\text{p}} = 10 \mu\text{s}$) $-I_{\text{G}} = 0.05$ mA On-state voltage, pulsed ($I_{\text{T}} = 3 \text{ A}; t_{\text{p}} = 5 \mu\text{s}$) $V_{\text{T}} \leq 2.0$ V

Gate trigger current

 $(V_{\text{AK}} = 6 \text{ V}; R_{\text{L}} = 100 \Omega)$ $I_{\text{GT}} \leq 200$ μA

Gate trigger voltage

 $(V_{\text{AK}} = 6 \text{ V}; R_{\text{L}} = 100 \Omega; R_{\text{GK}} = 1 \Omega)$ $V_{\text{GT}} \leq 0.8$ V

Gate non-trigger forward voltage

 $V_{\text{GF}} \geq 0.1$ V $(V_{\text{D}} = V_{\text{DR}}, R_{\text{GK}} = 1 \text{ k}\Omega)$

Critical rate of voltage rise

 $(R_{\text{GK}} = 1 \text{ k}\Omega; V_{\text{AK}} = 20 \text{ V})$ $dv/dt = 20$ $\text{V}/\mu\text{s}$

Turn-off time

 $(I_{\text{T}}(\text{rectangular}) = 0.8 \text{ A}, t_{\text{p}} = 50 \mu\text{s};$ $V_{\text{R}} = 20 \text{ V}; V_{\text{AK}} = V_{\text{DR}}; dv/dt = 20 \text{ V}/\mu\text{s})$ $t_{\text{q}} \leq 13$ μs

Turn-on time

 $(V_{\text{D}} = V_{\text{DR}}; R_{\text{L}} = 100 \Omega; R_{\text{GK}} = 1 \text{ k}\Omega$ $I_{\text{GTS}} = 1.4 \text{ mA}; t_{\text{p}} = 5 \mu\text{s}; t_{\text{r}} = 40 \text{ ns})$ $t_{\text{on}} = 1.2$ μs

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