

Silicon Miniature Thyristor

25C 04755

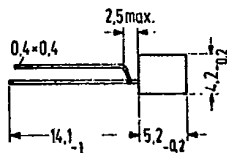
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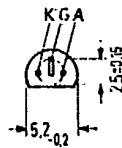
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BR 103 is a silicon planar thyristor in a TO-92 plastic package (10 A 3 DIN 41868). This thyristor is suitable for various applications within low power ranges, e.g. controls and regulations, counters, switches, etc.

Type	Ordering code
BR 103	Q68000-A729



Mounting instruction.
Fixing hole: 0.6 mm dia
Approx. weight 0.25 g



Dimensions in mm

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

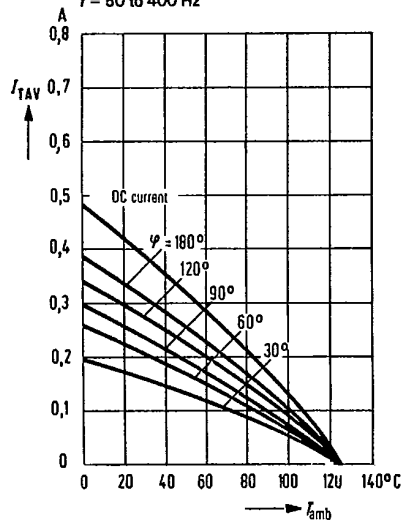
Neg. and pos. repetitive peak off-state voltage	V_{RR}/V_{DR}	30	V
Max. rms on-state current	$I_{T(rms)}$	0.8	A
Surge on-state current, sinusoidal pulse ($t_p < 10$ ms)	I_{TSM}	6	A
Repetitive surge on-state current at $t_p = 6 \mu\text{s}$ and $f = 40$ kHz sine	I_T	2	A
Peak gate forward current	I_{GFP}	0.5	A
Repetitive reverse gate voltage	$V_{(KG)R}$	6	V
Storage temperature range	T_{stg}	-40 to $+125$	$^\circ\text{C}$
Junction temperature range	T_j	-40 to $+125$	$^\circ\text{C}$
Average gate power dissipation	$P_{G(AV)}$	0.01	W
Peak gate power dissipation	P_{GP}	0.1	W

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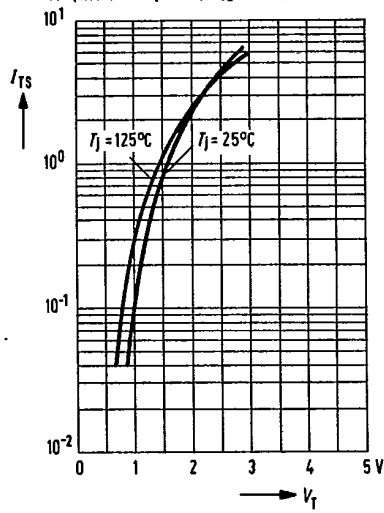
Static characteristics ($T_{\text{case}} = 25^{\circ}\text{C}$)

Continuous reverse blocking and off-state current ($R_{\text{GK}} = 1 \text{ k}\Omega$) ($T_j = 125^{\circ}\text{C}$)	$I_{\text{R}}/I_{\text{D}}$	<2	μA
Holding current ($R_{\text{GK}} = 1 \text{ k}\Omega$) ($T_j = -40^{\circ}\text{C}$)	I_{H}	<3	μA
On-state voltage ($I_{\text{TS}} = 1 \text{ A}$; $t_p = 1 \text{ ms}$)	I_{H}	<4	mA
Gate trigger current ($V_{\text{AK}} = 6 \text{ V}$; $R_{\text{L}} = 100 \Omega$) ($T_j = 0^{\circ}\text{C}$)	V_{T}	<1.5	V
Gate trigger voltage ($V_{\text{AK}} = 6 \text{ V}$, $R_{\text{L}} = 100 \Omega$, $R_{\text{GT}} = 1 \text{ k}\Omega$, $T_j = 0^{\circ}\text{C}$)	I_{GT}	<200	μA
Gate non-trigger forward voltage ($V_{\text{D}} = V_{\text{DR}}$; $R_{\text{GK}} = 1 \text{ k}\Omega$; $T_j = 125^{\circ}\text{C}$)	I_{GT}	<250	μA
Critical rate of voltage rise ($R_{\text{GK}} = 1 \text{ k}\Omega$; $T_j = 125^{\circ}\text{C}$; $V_{\text{AK}} = 10 \text{ V}$)	V_{GT}	<0.8	V
Turn-off time $I_{\text{TS}}(\text{rectangular}) = 1 \text{ A}$; $t_p = 50 \mu\text{s}$; ($V_{\text{R}} = 20 \text{ V}$; $V_{\text{AK}} = V_{\text{DR}}$; $T_{\text{dv/dt}} = 5 \mu\text{s}$)	V_{GT}	<0.9	V
Turn-on time ($V_{\text{D}} = V_{\text{DR}}$; $R_{\text{L}} = 100 \Omega$; $R_{\text{GK}} = 1 \text{ k}\Omega$; $I_{\text{GTS}} = 1.4 \text{ mA}$, $t_p = 5 \mu\text{s}$; $t_r = 40 \text{ ns}$)	V_{GF}	>0.1	V
	dv/dt	10	$\text{V}/\mu\text{s}$
	t_q	<6	μs
	t_{on}	1.2	μs

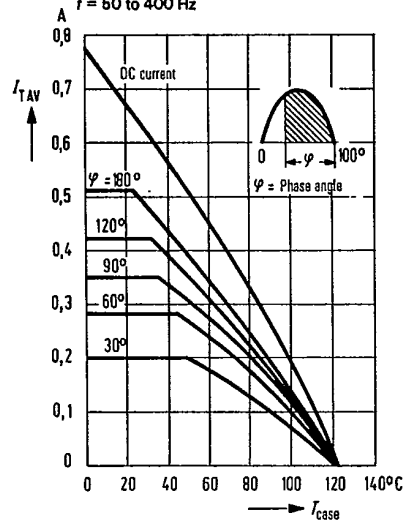
Max. mean on-state current
(sine) $I_{TAV} = f(T_{amb})$
 $f = 50$ to 400 Hz



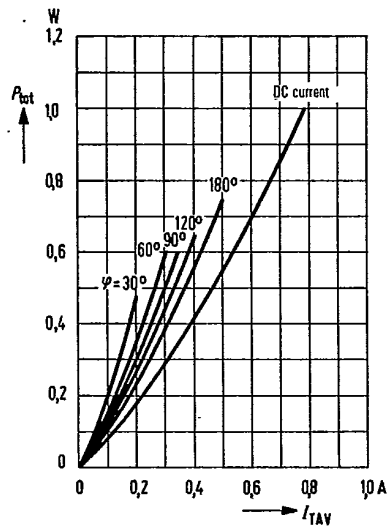
On-state characteristic
(short-time power); $I_{TS} = f(V_T)$



Max. mean on-state current
(sine) $I_{TAV} = f(T_{case})$
 $f = 50$ to 400 Hz



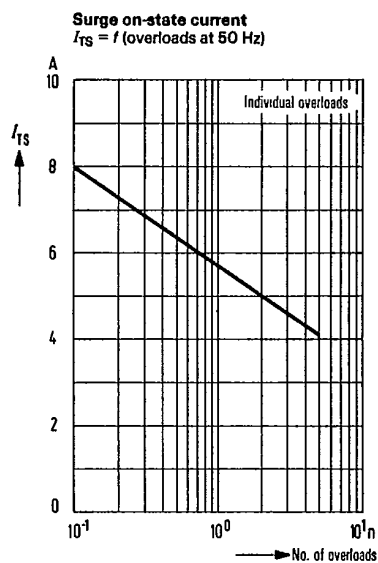
Power dissipation (sine) $P_{tot} = f(I_{TAV})$
 $f = 50$ to 400 Hz; $T = 125^{\circ}C$



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