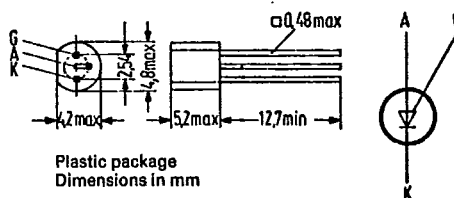


Programmable silicon planar unijunction transistor in TO 92 plastic package (10 A 3 DIN 41868).

Type	Ordering code
BRY 56 ¹⁾	Q68000-A803
BRY 56 A	Q68000-A803-S1
BRY 56 B	Q68000-A803-S2
BRY 56 C	Q68000-A803-S3



Maximum ratings

Voltage gate terminal cathode

Voltage gate terminal anode

Anode current, average value

 $(T_{\text{amb}} \leq 25^\circ\text{C})$ $(T_{\text{case}} \leq 85^{\circ}\text{C})$

Anode current, peak value

 $(t = 10 \mu s; V_T = 0.001)$

Current increase to $I_A = 2.5 \text{ A}$

Overload current surge

($t = 10 \mu\text{s}$; $T_j = 150^\circ\text{C}$)

Junction temperature

Storage temperature range

Total power dissipation ($T_{amb} \leq 75^{\circ}\text{C}$)²⁾

	BRY 56 A BRY 56 B BRY 56 C	
V_{GC}	70	V
V_{GA}	70	V
$I_{A\text{ AV}}$	175	mA
$I_{A\text{ AV}}$	250	mA
I_{AM}	2.5	A
dI_A/dt	20	A/ μ s
$i_{A\text{ surge}}$	3	A
T_J	150	$^{\circ}$ C
T_{stg}	-65 to +150	$^{\circ}$ C
P_{tot}	300	mW

Thermal resistance

Junction to ambient air²⁾

R_{thJA}	≤ 250	K/W
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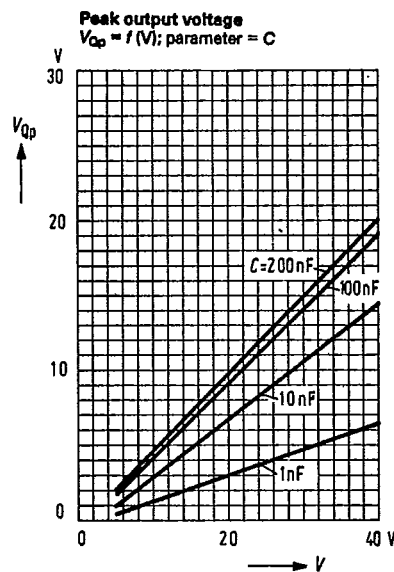
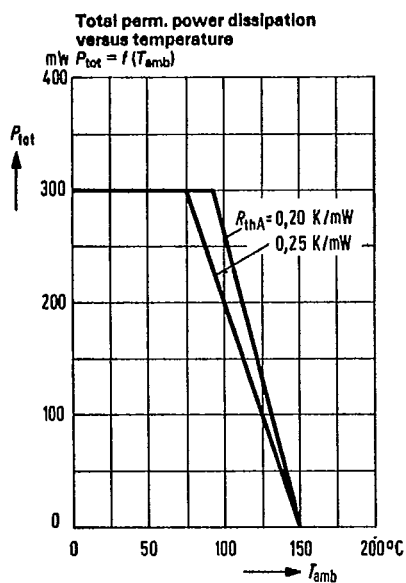
1) If a transistor is ordered without an exact indication of the current amplification wanted, then a transistor with a current amplification group available at stock will be delivered.

2) If mounted on PCBs with max. 3 mm long leads and a copper area of min. 10 x 10 mm for the anode terminal, then $R_{thJA} \leq 200 \text{ K/W}$, the power dissipation of 300 mW is then permitted up to $T_{amb} = 90^\circ\text{C}$.

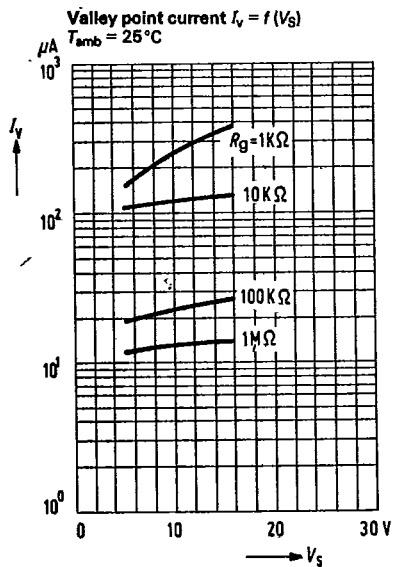
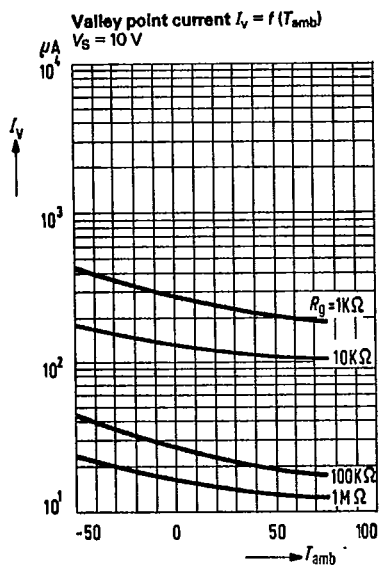
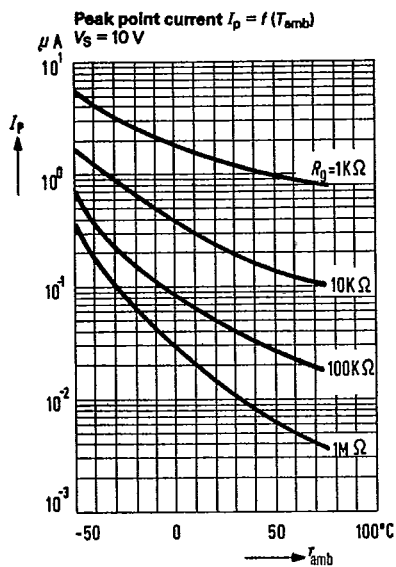
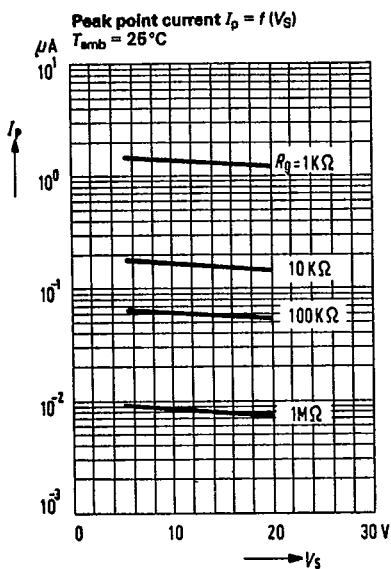
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Static characteristics ($T_{amb} = 25^\circ\text{C}$)

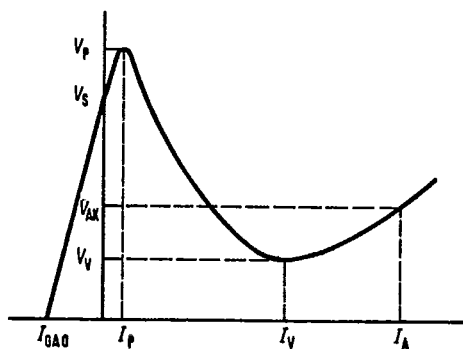
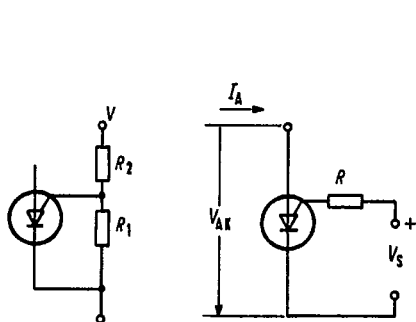
		BRY 56 A	BRY 56 B	BRY 56 C	
Peak point current at $V_S = 10\text{ V}$; $R_g = 10\text{ k}\Omega$	I_P	<220	180 to 1100	900 to 5000	nA
Valley point current at $V_S = 10\text{ V}$; $R_g = 10\text{ k}\Omega$	I_V	≥ 2	≥ 10	≥ 50	μA
Peak point current at $V_S = 10\text{ V}$; $R_g = 100\text{ k}\Omega$	I_P	≥ 2	≥ 2	≥ 2	μA
Valley point current at $V_S = 10\text{ V}$; $R_g = 100\text{ k}\Omega$	I_V	≥ 5	≥ 5	≥ 5	μA
Forward voltage ($I_A = 100\text{ mA}$)	V_F	≥ 1.4	≥ 1.4	≥ 1.4	V
Cutoff current gate terminal anode ($V_S = 70\text{ V}$; $I_K = 0$)	I_{GAO}	≤ 10	≤ 10	≤ 10	nA
Cutoff current gate terminal cathode ($V_S = 70\text{ V}$; $V_{AK} = 0$)	I_{GKS}	≤ 100	≤ 100	≤ 100	nA
Offset voltage	V_T	$V_P - V_S$	-	-	V



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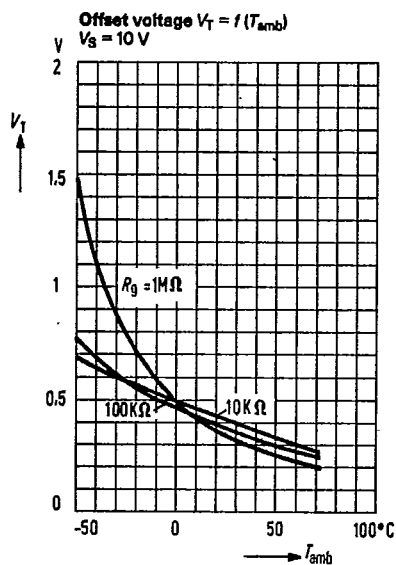
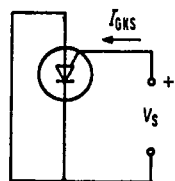
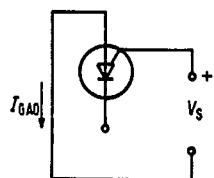


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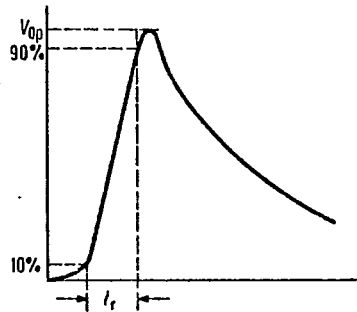
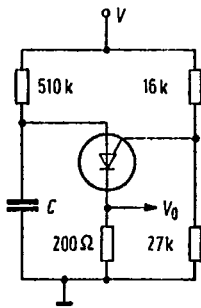
$$R_g = \frac{R_1 \cdot R_2}{R_1 + R_2}$$

$$V_S = \frac{R_1}{R_1 + R_2} \cdot V$$



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Rise time of output voltage at $V = 20\text{ V}$, $C = 10\text{ nF}$: $t_r \leq 80\text{ ns}$
 Peak value of output voltage at $V = 20\text{ V}$, $C = 0.2\text{ }\mu\text{F}$: $V_{Op} \geq 6\text{ V}$



Test circuit

