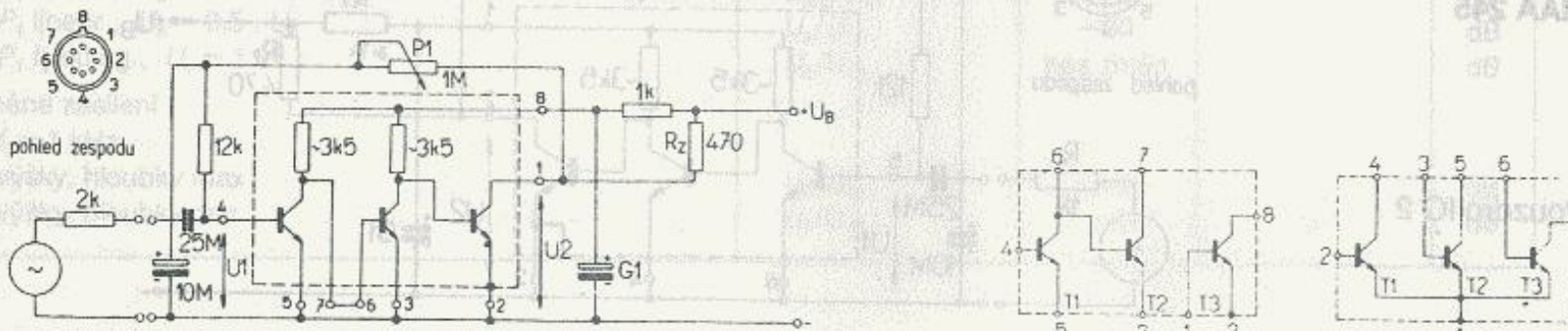


# MAA 325, MAA 345, MAA 435, MAA 525 INTEGROVANÉ OBVODY PRO VŠEOBECNÉ POUŽITÍ

MAA 325, MAA 345, MAA 435, MAA 525 УНИВЕРСАЛЬНЫЕ ИНТЕГРАЛЬНЫЕ СХЕМЫ • MAA 325, MAA 345, MAA 435, MAA 525 UNIVERSAL INTEGRATED CIRCUITS • MAA 325, MAA 345, MAA 435, MAA 525 UNIVERSALE INTEGRIERTE SCHALTUNGEN



MAA 325, MAA 345

Pouzdro IO 3

MAA 435

MAA 525

Charakteristické údaje:

Charakteristické údaje:			Měřeno při	
MAA 325 MAA 345	$A_v$	$>70$	dB	$U_B = 7\text{ V}, U_{2\text{eff}} = 2,1\text{ V}, f = 1\text{ kHz}, R_G = 2\text{ k}\Omega,$ $R_L = 470\ \Omega$
	$A_u$	$>60$	dB	$U_B = 7\text{ V}, U_{2\text{eff}} = 1,7\text{ V}, f = 1\text{ MHz}, R_G = 2\text{ k}\Omega$
	$K$	$<10$	%	$U_B = 7\text{ V}, U_{2\text{off}} = 2,1\text{ V}, f = 1\text{ kHz}, R_G = 2\text{ k}\Omega,$ $R_L = 470\ \Omega$
	$F^1)$	$<8$	dB	$U_{7/5} = 6\text{ V}, I_5 = 100\ \mu\text{A}, f = 1\text{ kHz}, R_G = 2\text{ k}\Omega,$ $\Delta f = 30\text{ Hz} \dots 15\text{ kHz}$
MAA 435	$h_{21E}^1)$	$>30$	-	$U_{7/5} = 1\text{ V}, I_5 = 1\text{ mA}$
	$U_{7/5\text{ sat}}^1)$	$<0,2$	V	$U_{8/5} = 6\text{ V}, I_C = 10 \cdot I_B$
	$U_{1/2\text{ sat}}^1)$	$<0,6$	V	$U_{8/2} = 6\text{ V}, U_{6/3} = 0\text{ V}, R_L = 470\ \Omega$
	$h_{21E1}$	$>40$	-	$U_{6/4} = 6\text{ V}, I_5 = 0,2\text{ mA}$
	$h_{21E2}$	$>40$	-	$U_{7/6} = 6\text{ V}, I_3 = 0,2\text{ mA}$
	$h_{21E3}$	$>40$	-	$U_{8/1} = 3,5\text{ V}, I_2 = 15\text{ mA}$
	$U_{BE}$	$0,55 \dots 0,8$	V	$I_5 = 0,2\text{ mA}, U_{4/5} = 6\text{ V}$
	$U_{8/2S}$	$<0,7$	V	$I_1 = 0,5\text{ mA}, I_8 = 20\text{ mA}$
	$U_{7/3S}$	$<0,9$	V	$I_6 = 0,2\text{ mA}, I_7 = 8\text{ mA}$
	$F$	$<8$	dB	$U_{6/5} = 6\text{ V}, I_6 = 100\ \mu\text{A}, R_G = 2\text{ k}\Omega, f = 1\text{ kHz},$ $\Delta f = 30\text{ Hz} \dots 15\text{ kHz}$
	$ h_{21E}  (T1, T2, T3)$	$\geq 1$	-	$U_{CE} = 6\text{ V}, I_E = 2\text{ mA}, f = 100\text{ MHz}$

1) Prvního tranzistoru.

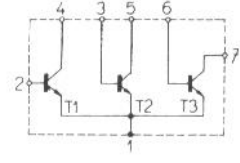
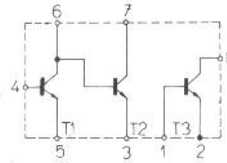
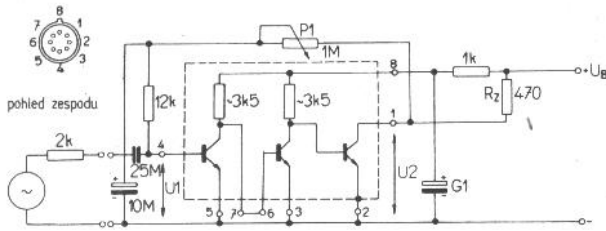
2) Třetího tranzistoru.

MAA 525	$h_{21E}$	$>20$		$U_{CB} = 6\text{ V}, I_E = 2\text{ mA} (T_1, T_2, T_3)$
	$U_{BE}$	$0,5 < 0,75 < 0,8$	V	$U_{CB} = 6\text{ V}, I_E = 200\text{ }\mu\text{A} (T_1, T_2, T_3)$
	$U_{CES}$	$<0,4$	V	$I_C = 8\text{ mA}, I_B = 0,4\text{ mA} (T_1, T_2, T_3)$
	$ h_{21e} $	$\geq 1$		$U_{CE} = 6\text{ V}, I_E = 2\text{ mA}, f = 100\text{ MHz}, (T_1, T_2, T_3)$
	$F(T_1)$	$\leq 10$	dB	$U_{4/1} = 6\text{ V}, I_4 = 100\text{ }\mu\text{A}, R_G = 2\text{ k}\Omega, f = 1\text{ kHz},$ $\Delta f = 30\text{ Hz} \dots 15\text{ kHz}$

## Mezní hodnoty:

MAA 325			MAA 345		MAA 435			MAA 525 (T1, T2, T3)				
$U_B$	max.	7	12	V	$U_{6/5}$	max.	7	V	$U_{CEO}$	max.	7	V
$U_{S/3}$	max.	7	7	V	$U_{7/3}$	max.	7	V	$U_{EBO}$	max.	5	V
$U_{1/2}$	max.	7	12	V	$U_{8/2}$	max.	9	V	$I_C (T3)$	max.	40	mA
$U_{7/40}$	max.		20	V	$U_{6/4}$	max.	15	V	$I_C (T2)$	max.	20	mA
$I_{7/5}$	max.		7	V	$U_{8/1}$	max.	15	V	$I_C (T1)$	max.	10	mA
$U_{5/4 M}$	max.		6	V	$U_{5/4}$	max.	6	V	$P_{101}^{1)}$	max.	300	mW
$U_{3/6M}$	max.		6	V	$U_{3/6}$	max.	6	V	$\alpha$	max.	150	$^{\circ}\text{C}$
$I_1$	max.	40		mA	$U_{2/1}$	max.	6	V	$\vartheta_a$	max.	-55 ... +125	$^{\circ}\text{C}$
$I_2$	max.	40		mA	$I_2$	max.	40	mA				
$I_5$	max.	20		mA	$I_5$	max.	20	mA				
$I_7$	max.	20		mA	$I_3$	max.	20	mA				
$I_4$	max.	10		mA	$I_1$	max.	10	mA				
$I_3$	max.	5		mA	$I_4$	max.	10	mA				
$I_5$	max.	10		mA	$P_{tot}^{1)}$	max.	300	mW				
$P_{tot}^{1)}$	max.	300		mW	$\vartheta_1$	max.	150	$^{\circ}\text{C}$				
$\vartheta_1$	max.	150		$^{\circ}\text{C}$	$\vartheta_a$	max.	-55 ... +125	$^{\circ}\text{C}$				
$\vartheta_a$	max.	-55 ... +125		$^{\circ}\text{C}$								

1)  $\vartheta_a \leq 45\text{ }^{\circ}\text{C}$



MAA325  
MAA345

MAA435

MAA525

Pouzdro IO 3

Charakteristické údaje:

Měřeno při

Parameter	Value	Unit	Measurement Conditions
<b>MAA325</b> <b>MAA345</b>	$A_U$	> 70	dB
	$A_U$	> 60	dB
	K	< 10	%
	F <sup>1)</sup>	< 8	dB
	$h_{21E}$ <sup>1)</sup>	> 30	
	$U_{7/5 sat}$ <sup>1)</sup>	< 0,2	V
	$U_{1/2 sat}$ <sup>2)</sup>	< 0,6	V
			$U_B = 7 V, U_{2 eff} = 2,1 V, f = 1 kHz, R_G = 2 k\Omega, R_L = 470 \Omega$
			$U_B = 7 V, U_{2 eff} = 1,7 V, f = 1 MHz, R_G = 2 k\Omega$
			$U_B = 7 V, U_{2 eff} = 2,1 V, f = 1 kHz, R_G = 2 k\Omega, R_L = 470 \Omega$
			$U_{7/5} = 6 V, I_5 = 100 \mu A, f = 1 kHz, R_G = 2 k\Omega, \Delta f = 30 Hz \dots 15 kHz$
			$U_{7/5} = 1 V, I_5 = 1 mA$
			$U_{8/5} = 6 V, I_C = 10 \dots 1 \mu A$
			$U_{8/2} = 6 V, U_{6/3} = 0 V, R_L = 470 \Omega$
<b>MAA435</b>	$h_{21E1}$	> 40	
	$h_{21E2}$	> 40	
	$h_{21E3}$	> 40	
	$U_{BE}$	0,55 ... 0,8	V
	$U_{8/2S}$	< 0,7	V
	$U_{7/3S}$	< 0,9	V
	F	< 8	dB
	$ h_{21e}  (T1, T2, T3)$	$\geq 1$	
			$U_{E/4} = 6 V, I_5 = 0,2 mA$
			$U_{7/6} = 6 V, I_3 = 0,2 mA$
			$U_{8/11} = 3,5 V, I_2 = 15 mA$
			$I_5 = 0,2 mA, U_{4/5} = 6 V$
			$I_1 = 0,5 mA, I_8 = 20 mA$
			$I_6 = 0,2 mA, I_7 = 8 mA$
			$U_{6/5} = 6 V, I_6 = 100 \mu A, R_G = 2 k\Omega, f = 1 kHz, \Delta f = 30 Hz \dots 15 kHz$
			$U_{CE} = 6 V, I_E = 2 mA, f = 100 MHz$
<b>MAA525</b>	$h_{21E}$	> 20	
	$U_{BE}$	0,5 < 0,75 < 0,8	V
	$U_{CES}$	< 0,4	V
	$ h_{21e} $	$\approx 1$	
	F (T <sub>1</sub> )	$\approx 10$	dB
			$U_{CB} = 6 V, I_E = 2 mA (T1, T2, T3)$
			$U_{CB} = 6 V, I_E = 200 \mu A (T1, T2, T3)$
			$I_C = 8 mA, I_B = 0,4 mA (T1, T2, T3)$
			$U_{CE} = 6 V, I_E = 2 mA, f = 100 MHz, (T1, T2, T3)$
			$U_{4/1} = 6 V, I_4 = 100 \mu A, R_G = 2 k\Omega, f = 1 kHz, \Delta f = 30 Hz \dots 15 kHz$

<sup>1)</sup> Prvního tranzistoru

<sup>2)</sup> Třetího tranzistoru

Mezní hodnoty:

MAA325 MAA345				MAA435				MAA525 (T1, T2, T3)				
$U_B$	max.	7	12	V	$U_{6/5}$	max.	7	V	$U_{CEO}$	max.	7	V
$U_{8/3}$	max.	7	7	V	$U_{7/3}$	max.	7	V	$U_{EBV}$	max.	5	V
$U_{1/2}$	max.	7	12	V	$U_{8/2}$	max.	9	V	$I_C (T3)$	max.	40	mA
$U_{7/10}$	max.	20		V	$U_{6/4}$	max.	15	V	$I_C (T2)$	max.	20	mA
$U_{7/5}$	max.	7		V	$U_{8/11}$	max.	15	V	$I_C (T1)$	max.	10	mA
$U_{5/4M}$	max.	6		V	$U_{5/4}$	max.	6	V	$P_{tot}^{3)}$	max.	300	mW
$U_{3/6M}$	max.	6		V	$U_{3/6}$	max.	6	V	$\theta_j$	max.	150	°C
$I_1$	max.	40		mA	$U_{2/1}$	max.	6	V	$\theta_a$	max.	-55 ... +125	°C
$I_2$	max.	40		mA	$I_2$	max.	40	mA				
$I_5$	max.	20		mA	$I_5$	max.	20	mA				
$I_7$	max.	20		mA	$I_3$	max.	20	mA				
$I_4$	max.	10		mA	$I_1$	max.	10	mA				
$I_3$	max.	5		mA	$I_4$	max.	10	mA				
$I_6$	max.	10		mA	$P_{tot}^{3)}$	max.	300	mW				
$P_{tot}^{3)}$	max.	300		mW	$\theta_j$	max.	150	°C				
$\theta_j$	max.	150		°C	$\theta_a$	max.	-55 ... +125	°C				
$\theta_a$	max.	-55 ... +125		°C								

<sup>3)</sup>  $\theta_a \leq 45^\circ C$