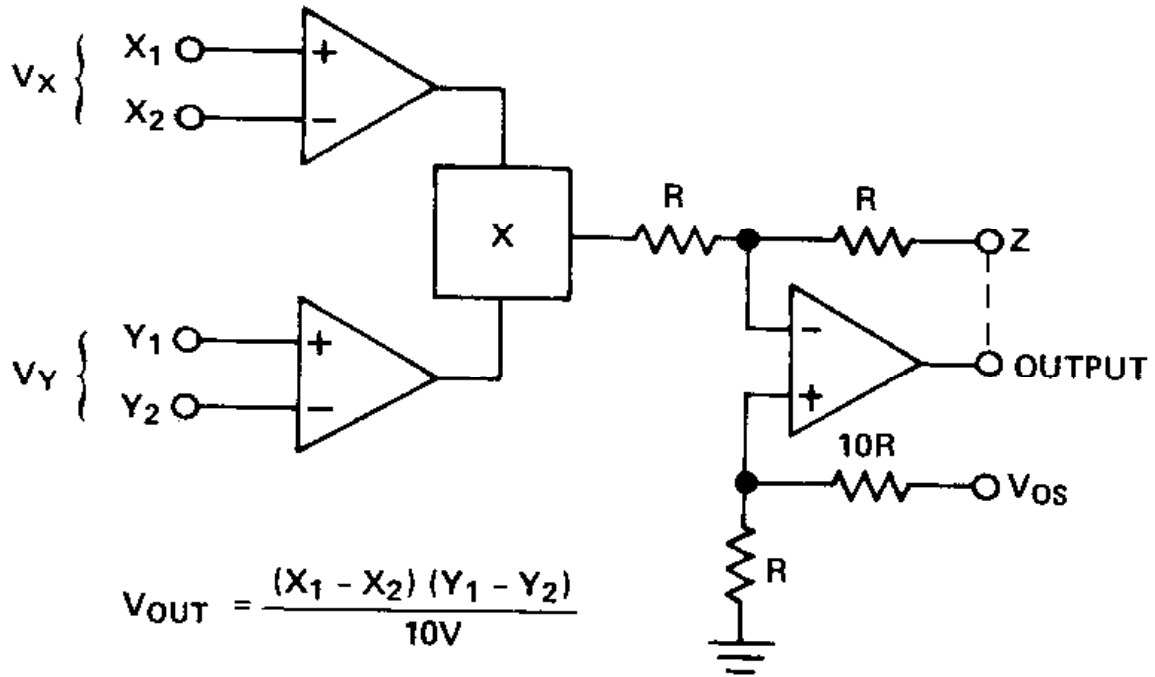
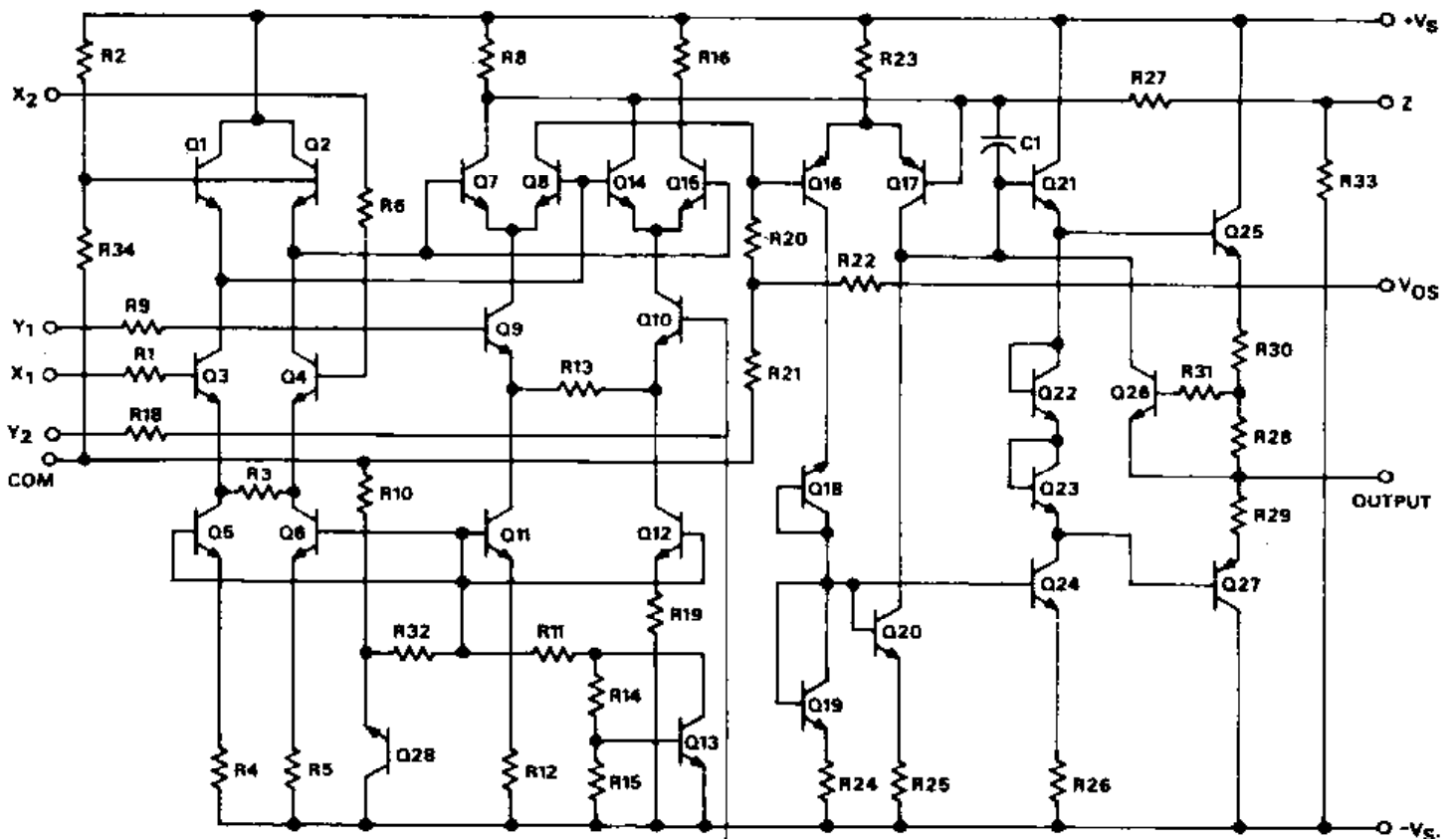


AD532 Analogmultiplizierer

Functional Block Diagram



Schematic Diagram

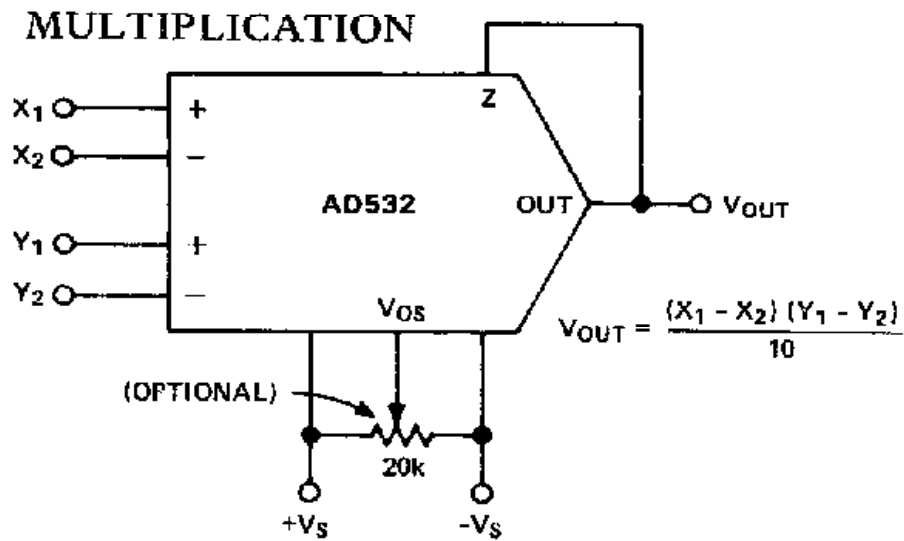


Specifications AD532 Analog Multiplier

(typical @ +25°C with $V_S = \pm 15\text{VDC}$, V_{OS} grounded)

PARAMETER	CONDITIONS	AD532J
ABSOLUTE MAX RATINGS		
Supply Voltage		$\pm 18\text{V}$
Internal Power Dissipation		500mW
Input Voltage (Note 1)		$\pm V_S$
X, Y, V_{OS} , Z		
Rated Operating Temp Range		0 to +70°C
Storage Temp Range		-65 to +150°C
MULTIPLIER SPECIFICATIONS		
Transfer Function		$(X_1 - X_2)(Y_1 - Y_2)/10$
Total Error (% F.S.)	$V_X = 0/\pm 10\text{V}$, $V_Y = 0/\pm 10\text{V}$	$\pm 2.0\%$ max [$\pm 1.5\%$ typ]
	$T_A = \text{min to max}$	$\pm 2.5\%$
vs. Temperature	$T_A = \text{min to max}$	$\pm 0.04\%/^\circ\text{C}$
Nonlinearity		
X Input	$V_X = 20\text{V(p-p)}$, $V_Y = \pm 10\text{V}$	$\pm 0.8\%$
Y Input	$V_Y = 20\text{V(p-p)}$, $V_X = \pm 10\text{V}$	$\pm 0.3\%$
DIVIDER SPECIFICATIONS		
Transfer Function		$10Z/(X_1 - X_2)$
Total Error (Note 2)	$V_X = -10\text{V}$, $V_Z = \pm 10\text{V}$	$\pm 2\%$
	$V_X = -1\text{V}$, $V_Z = \pm 10\text{V}$	$\pm 4\%$
SQUARER SPECIFICATIONS		
Transfer Function		$(X_1 - X_2)^2/10$
Total Error		$\pm 0.8\%$
SQUARE ROOTER SPECIFICATIONS		
Transfer Function		$-\sqrt{10Z}$
Total Error (Note 2)	$V_Z = 0/+10\text{V}$	$\pm 1.5\%$
DYNAMIC SPECIFICATIONS		
Small Signal, Unity Gain		1.0MHz
Full Power Bandwidth		750kHz
Slew Rate		45V/ μsec
Small Signal Amplitude Error		1% at 75kHz
Small Signal 1% Vector Error	0.5° phase shift	5kHz
Settling Time	$\pm 10\text{V}$ step	1 μsec to 2%
Overload Recovery		2 μsec to 2%
POWER SUPPLY SPECIFICATIONS		
Supply Voltage	Rated Performance	$\pm 15\text{V}$
	Operating	$\pm 10\text{V}$ to $\pm 18\text{V}$
Supply Current	Quiescent	$\pm 6\text{mA}$ max [$\pm 4\text{mA}$ typ]

Anwendungen des AD532



SQUARE

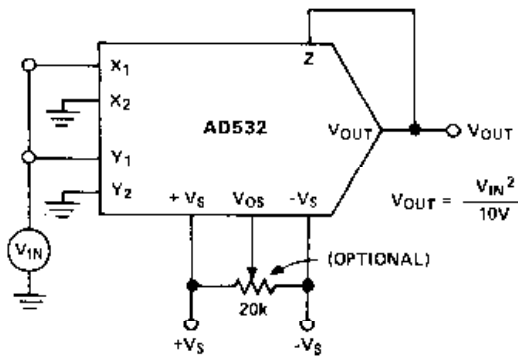


Figure 12. Squarer Connection

SQUARE ROOT

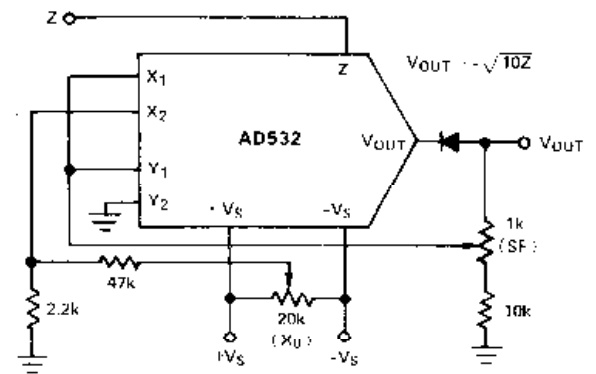


Figure 14. Square Rooter Connection

DIVISION

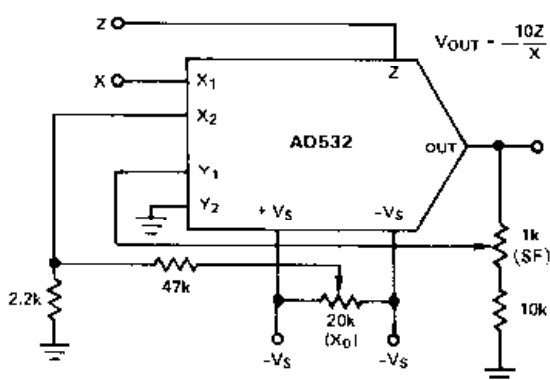


Figure 13. Divider Connection

DIFFERENCE OF SQUARES

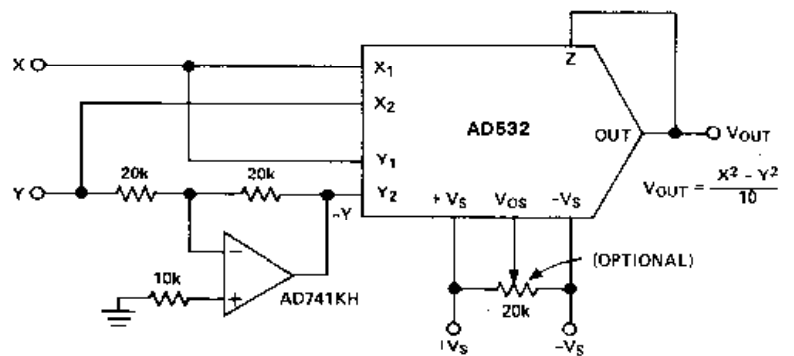


Figure 15. Difference of Squares Connection