

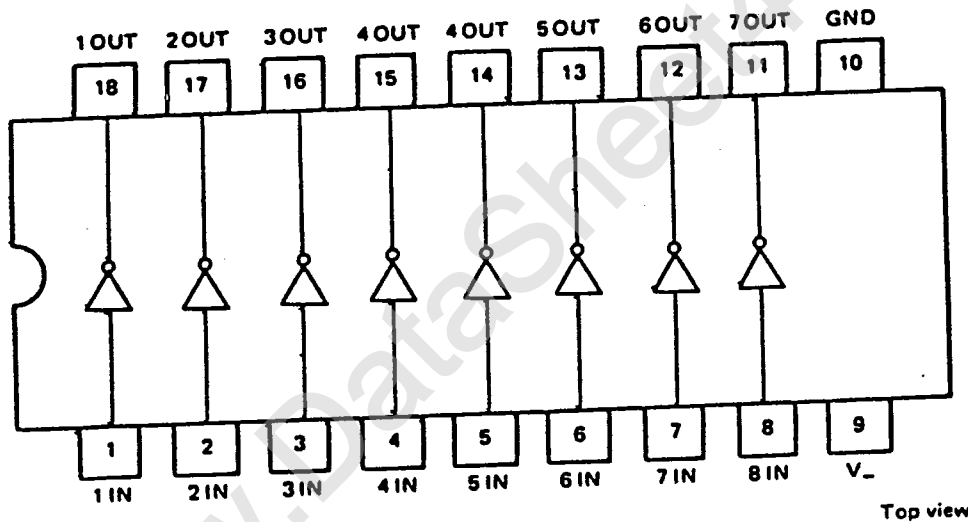


OKI SEMICONDUCTOR INTEGRATED CIRCUIT CATALOG (PROVISIONAL) FLUORESCENT DISPLAY TUBE DRIVER MSL 915R and MSL 916A *obsolete*

OKI's MSL 915R and MSL 916A semiconductor integrated circuits are high working voltage fluorescent display tube drivers operated by negative power which include eight circuits in an 18-pin Dual Inline Package (DIP). The built-in pull-down resistor in the output terminal eliminates the requirement for external resistors even for dynamic running.

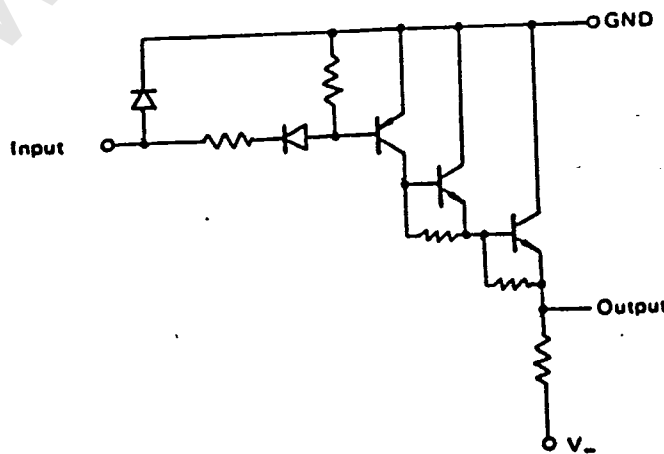
The MSL 915R and MSL 916A can be directly driven by TTL or CMOS level input. Use the MSL 915R, made of a plastic package with a power voltage of -60V or less, the MSL 916A, made of a ceramic package, with a power voltage of -61 to -80V.

• Terminal block diagram (For MSL 915R and MSL 916A)



Top view

• Equivalent circuit diagram (For MSL 915R and MSL 916A)
(Eight circuits are provided.)



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• Absolute maximum ratings

Item	Symbol	Condition	Rated value		Unit
			MSL915R	MSL916A	
Supply voltage	V_-	$T_a = 25^\circ\text{C}$	-65	-85	V
Input voltage	V_I	$T_a = 25^\circ\text{C}$	-10		V
Output voltage	V_O	$T_a = 25^\circ\text{C}$	-65	-85	V
Load current	I_{OH}	$T_a = 25^\circ\text{C}$	-45		mA
Storage temperature	T_{stg}	-	-55 ~ +150		$^\circ\text{C}$
Power dissipation	P_D	$T_a = 25^\circ\text{C}$	400	950	mW

• Recommended operating ranges

Item	Symbol	Condition	Range		Unit
			MSL915R	MSL916A	
Supply voltage	V_-	-	-20 ~ -60	-20 ~ -80	V
Load current	I_{OH}	-	-40		mA
Input voltage	V_I	-	-7		V
Operating temperature	T_{OP}	-	-30 ~ +75		$^\circ\text{C}$

• Electrical characteristics over recommended operating ranges

($T_a = -30 \sim +75^\circ\text{C}$)

MSL916A

Item	Symbol	Condition			Value			Unit	
		V_-	V_I	I_O	Minimum	Typical*	Maximum		
		V	V	mA					
"H" input voltage	V_{IH}	-80	-	-	-	-	-2	V	
"L" input voltage	V_{IL}	-80	-	-	-4	-	-	V	
"H" input current	I_{IH}	-80	-2	-	-	-80	-300	μA	
"L" input current	I_{IL1}	-80	-4	-	-	-	-0.23	-0.6	mA
	I_{IL2}		-7				-0.48	-1.3	mA
"H" output voltage	V_{OH}	-80	-4	-40	-	-3	-5	V	
"L" output voltage	V_{OL}	-80	-2	0	-75	-78		V	
Supply current	$I_{CC\ OFF}$	-80	All input -2	0	-	0.7	1.5	mA	
	$I_{CC\ ON}$		All input -4	0	-	10	17	mA	

*: When $T_a = 25^\circ\text{C}$

MSL915R

Item	Symbol	Condition			Value			Unit
		V ₋	V _I	I _O	Minimum	Typical*	Maximum	
		V	V	mA				
"H" input voltage	V _{IH}	-60	-	-	-	-	-2	V
"L" input voltage	V _{IL}	-60	-	-	-4	-	-	V
"H" input current	I _{IH}	-60	-2	-	-	-80	-300	μA
"L" input current	I _{IL1}	-60	-4	-	-	-0.23	-0.6	mA
	I _{IL2}		-7			-0.48	-1.3	mA
"H" output voltage	V _{OH}	-60	-4	-40	-	-3	-5	V
"L" output voltage	V _{OL}	-60	-2	0	-65	-68	-	V
Supply current	I _{CC OFF}	-60	All input -2	0	-	0.7	1.5	mA
	I _{CC ON}		All input -4	0	-	8	14	mA

*: When T_a = 25°C