

MITSUBISHI (DGTL LOGIC)

M54562P**8-UNIT 500mA SOURCE TYPE DARLINGTON TRANSISTOR ARRAY
WITH CLAMP DIODE****DESCRIPTION**

The M54562P, 8-channel source driver, is designed for use with MOS logic systems.

FEATURES

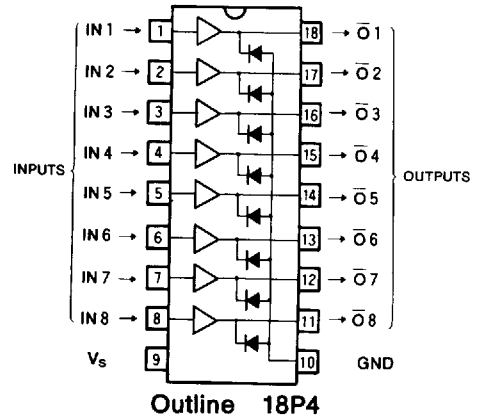
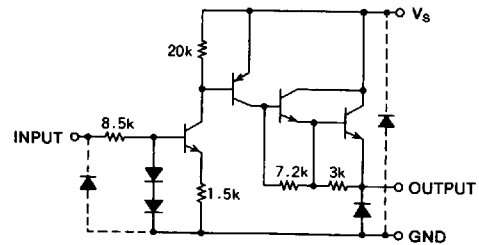
- High output sustaining voltage to 50V
- High output source current to 500mA
- Integral diode for transient suppression
- CMOS compatible input
- Wide operating temperature range ($T_a = -20 \sim +75^\circ\text{C}$)

APPLICATION

Relay and printer driver, LED, incandescent or fluorescent display driver, Interfacing for standard MOS/BIPOLAR logics

FUNCTION

The driver of the M54562P is comprised of a NPN inverter and compound PNP/NPN/NPN output source driver, and the output is turned ON by an active high input level. Each output has an integral diode for inductive load suppression. The outputs are capable of driving 500mA and are rated for operation with output voltage up to 50V.

PIN CONFIGURATION (TOP VIEW)**CIRCUIT SCHEMATIC**

The diodes shown by broken line are parasite diodes and must not be used

Unit : Ω **ABSOLUTE MAXIMUM RATINGS** ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CE0}	Output sustaining voltage	Output is in "L"	-0.5 ~ +50	V
V_s	Supply voltage		50	V
V_i	Input voltage		0 ~ +30	V
I_o	Output current	Per channel current at "H" output	-500	mA
I_F	Clamp diode forward current		-500	mA
V_R	Clamp diode reverse voltage		50	V
P_d	Power dissipation	$T_a = 25^\circ\text{C}$	1.79	W
T_{opr}	Operating temperature		-20 ~ +75	$^\circ\text{C}$
T_{stg}	Storage temperature		-55 ~ +125	$^\circ\text{C}$

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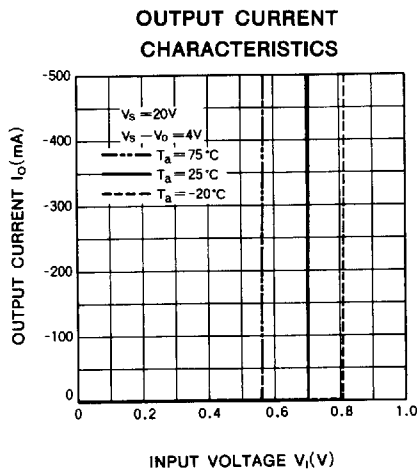
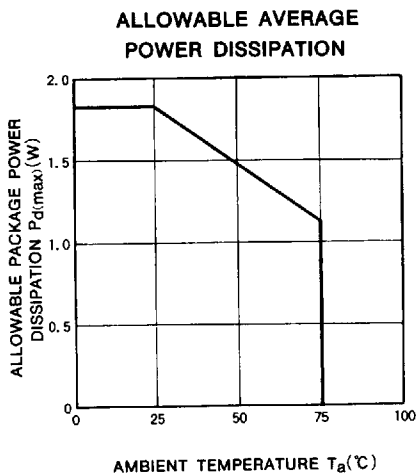
RECOMMENDED OPERATIONAL CONDITIONS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter		Limits			Unit
			Min	Typ	Max	
V_S	Supply voltage		0		50	V
I_O	Output current per channel	Percent duty cycle less than 8%	0		-350	mA
		Percent duty cycle less than 55%	0		-100	
V_{IH}	High-level Input voltage	$I_O = -350\text{mA}$	2.4	5	30	V
V_{IL}	Low-level Input voltage		0		0.2	V

ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_S (leak)	Supply leak current	$V_S = 50\text{V}, V_I = 0.2\text{V}$			100	μA
V_{CE} (sat)	Output saturation voltage	$V_S = 10\text{V}, V_I = 2.4\text{V}, I_O = -350\text{mA}$		1.6	2.4	V
		$V_S = 10\text{V}, V_I = 2.4\text{V}, I_O = -100\text{mA}$		1.45	2.0	
I_I	Input current	$V_I = 5\text{V}$		0.48	0.75	mA
		$V_I = 25\text{V}$		2.8	4.7	
I_S	Supply current	$V_S = 50\text{V}, V_I = 5\text{V}$		5.6	15	mA
V_F	Clamp diode forward voltage	$I_F = -350\text{mA}$		-1.2	-2.4	V
V_R	Clamp diode reverse voltage	$I_R = 100\mu\text{A}$	50			V

TYPICAL CHARACTERISTICS

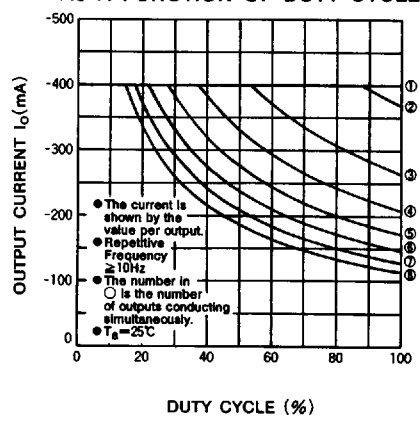


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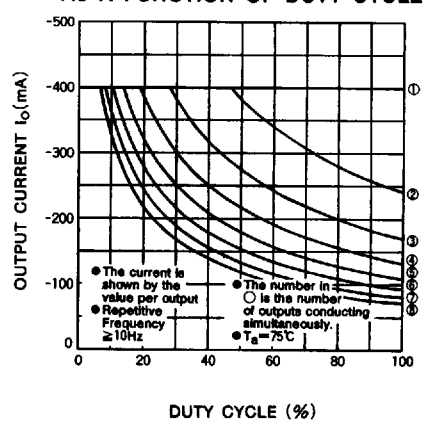
M54562P

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ALLOWABLE OUTPUT CURRENT AS A FUNCTION OF DUTY CYCLE



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INPUT CHARACTERISTICS

