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MITSUBISHI ELEK (LINEAR) 80 DE 6249826 0009303 2
MITSUBISHI BIPOLAR DIGITAL ICs

6249826 MITSUBISHI ELEK (LINEAR) 80C 09303 07-43-2S
M54566P
7-UNIT 400mA DARLINGTON TRANSISTOR ARRAY
(INPUT "L" ACTIVE)

DESCRIPTION

The M54566P, 7-channel sink driver, consists of 7 PNP and 14 NPN transistors connected to form high current gain driver pairs.

FEATURES

- High output sustaining voltage to 50V
- High output sink current to 400mA
- "L" Active input
- Wide operating temperature range ($T_A = -20 \sim +75^\circ\text{C}$)

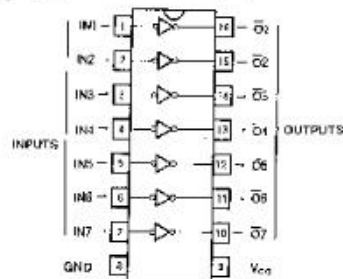
APPLICATION

Relay and printer driver, interfacing between standard MOS/BIPOLAR logics

FUNCTION

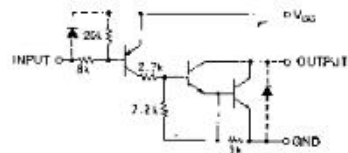
The M54566P is comprised of seven PNP inverters with 8 k Ω series input resistors and NPN darlington sink drivers. The output is turned ON by switching the input low. The outputs are capable of sinking 400mA and will withstand 50V in the OFF state.

PIN CONFIGURATION (TOP VIEW)



Outline 16P4

CIRCUIT SCHEMATIC



Unit: 0



16-pin molded plastic DIP

ABSOLUTE MAXIMUM RATINGS ($T_A = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Rating	Unit
V_{CC}	Supply voltage		10	V
$V_{O(sat)}$	Output sustaining voltage	Transistor OFF	-0.5 ~ +50	V
V_i	Input voltage		0 ~ V_{CC}	V
I_o	Collector current	Transistor ON	400	mA
P_d	Power dissipation	$T_A = 25^\circ\text{C}$	1.47	W
T_{opr}	Operating ambient temperature range		-20 ~ +75	$^\circ\text{C}$
T_{stg}	Storage temperature range		-55 ~ +125	$^\circ\text{C}$

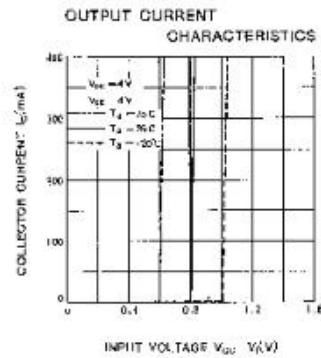
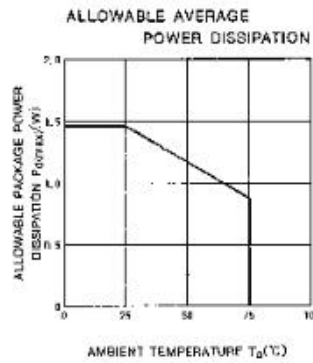
RECOMMENDED OPERATIONAL CONDITIONS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Limits			Unit
		Min	Typ	Max	
V_{CC}	Supply voltage	4	5	8	V
I_C	Collector current per channel	Percent duty cycle less than 10%	0	350	mA
		Percent duty cycle less than 50%	0	200	
V_{IH}	"H" input voltage	$V_{OH} - 1.5$		V_{CC}	V
V_{IL}	"L" input voltage	0		$V_{CC} - 2$	V

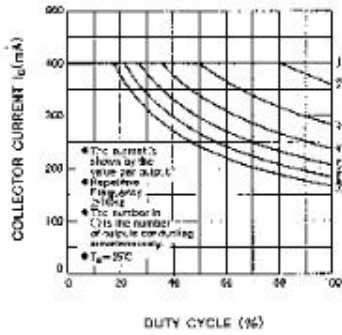
ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{CE(sat)}$	Output saturation voltage	$I_C = 100 \mu\text{A}$	50			V
$V_{CE(10\%)}$	Output saturation voltage	$V_I = V_{CC} - 2\text{V}$, $I_C = 350 \text{ mA}$ $I_C = 100 \text{ mA}$	1.1	2.2	2.2	V
I_I	Input current	$V_I = V_{CC} - 3.5 \text{ V}$	-0.58	-0.58	-0.58	mA
I_{sp}	Supply current	$V_{CC} = 5 \text{ V}$, $V_I = V_{CC} - 3.5 \text{ V}$	1.4		3	mA
f_{osc}	DC forward current gain	$V_{CC} = 4 \text{ V}$, $V_{OH} = 0 \text{ V}$, $I_C = 10 \text{ mA}$, $T_d = 25^\circ\text{C}$	2000	10000		

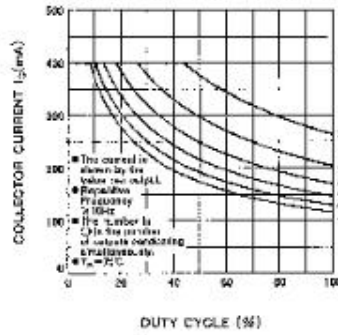
TYPICAL CHARACTERISTICS



ALLOWABLE COLLECTOR CURRENT
AS A FUNCTION OF DUTY CYCLE



ALLOWABLE COLLECTOR CURRENT
AS A FUNCTION OF DUTY CYCLE



DC CURRENT GAIN
CHARACTERISTICS

