

SHINDENGEN

High Output Interface Driver ICs

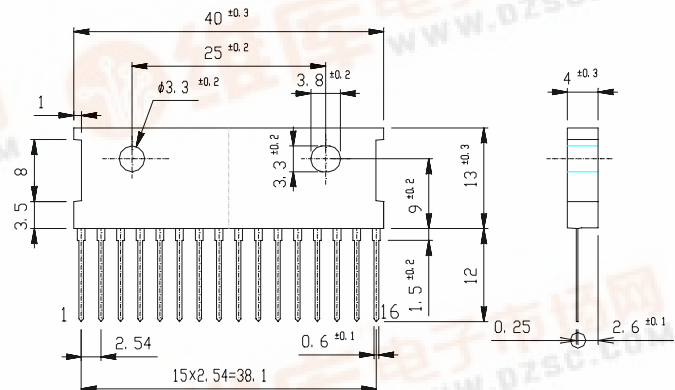
MTB Series

MTB001

OUTLINE DIMENSIONS

Case : SIP-16

(Unit : mm)



FEATURES

- Four output driver per package
- TTL/CMOS compatible inputs (Low active)

APPLICATION

- Head needle drive for printer
- Stepping motor drive for office automation products

RATINGS

● Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Ratings	Unit
Output Voltage	$V_{CEO(SUS)}$	80	V
Output Current	I_O	4	A
Reverse Voltage(flyback diode)	V_R	80	V
Forward Current(each flyback diode)	I_F	4	A
Forward Current(each common terminal)	I_F	18	A
Output Current(each GND terminal)	I_{GND}	10	A
Logic Supply Voltage	V_{CC}	0~7	V
Logic Input Voltage	V_{IN}	0~ V_{CC}	V
Enable Input Voltage	V_{ENA}	0~ V_{CC}	V
Total Power Dissipation	P_T	5	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-40~150	°C

● Electrical Characteristics (Ta=25°C)

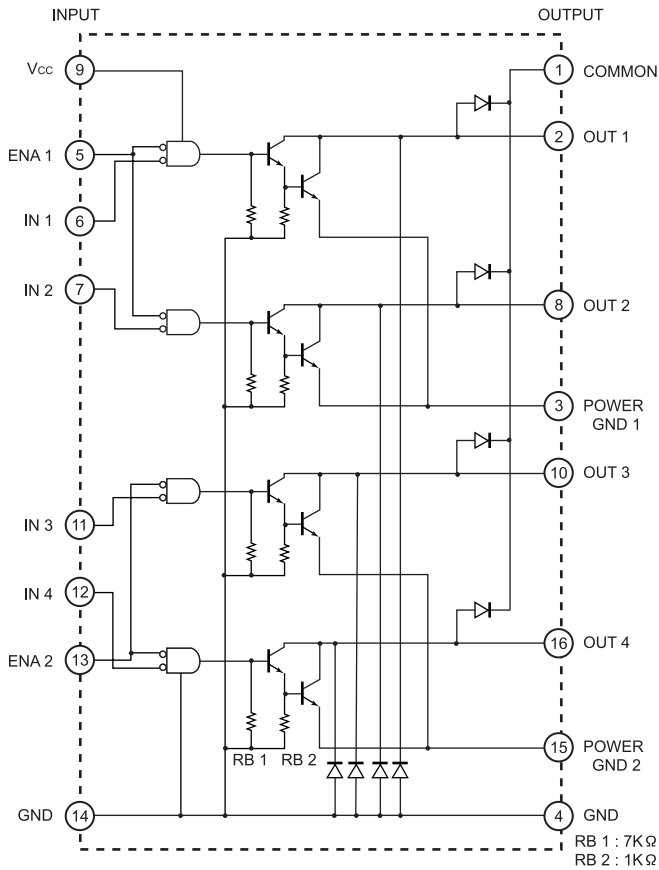
Item	Symbol	Test Conditions	min.	typ.	max.	Unit
Output Saturation Voltage	$V_{CE(sat)}$	$V_{CC}=5V, I_C=3A, V_{IN}=V_{ENA}=0V$		1.3	1.7	V
Output Leakage Current	I_{CE}	$V_{CE}=80V$			10	μA
Output Sustaining Voltage	$V_{CEO(sus)}$	$I_C=0.4A$	80			V
Logic Supply Current(Standby)	$I_{CC(OFF)}$	$V_{CC}=5V, V_{IN}="H"$		15		mA
Logic Supply Current(All Circuit ON)	$I_{CC(ON)}$	$V_{CC}=5V, V_{IN}="L"$		55		mA
Input High Voltage	V_{INH}	$V_{CC}=5V$	2.7			V
Input Low Voltage	V_{INL}	$V_{CC}=5V$			1.5	V
Logic Low Input Current	I_{INL}	$V_{CC}=5V, V_{IN}=0V$		-10	-50	μA
Enable"H"Input Voltage	V_{ENAH}	$V_{CC}=5V$	2.7			V
Enable"L"Input Voltage	V_{ENAL}	$V_{CC}=5V$			1.5	V
Enable"L"Input Current	I_{ENAL}	$V_{CC}=5V, V_{ENA}=0V$		-10	-150	μA
Thermal Resistance	θ_{jc}				3.57	°C/W
	θ_{ja}				25	°C/W
Reverse Current(each flyback diode)	I_R	$V_R=80V$			10	μA
Reverse Voltage(flyback diode)	V_F	$I_F=3A$		1.5	1.7	V
Dielectric Strength	V_{ISO}	Substrate to Terminals	500			V



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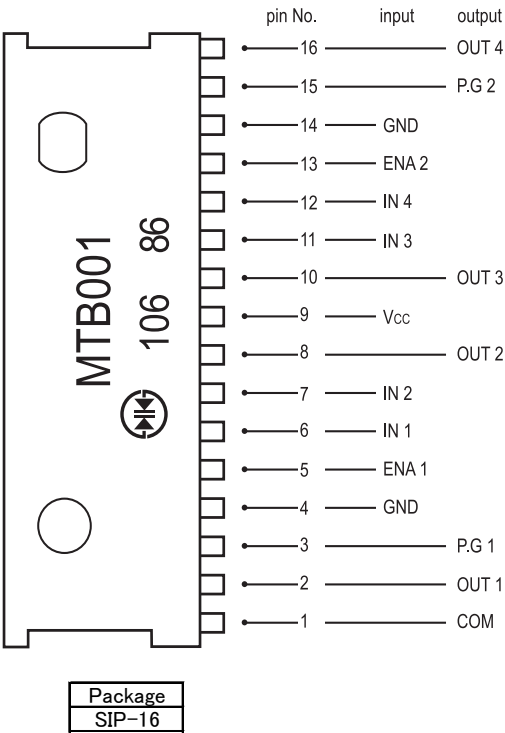
MTB001

●Equivalent Circuit



Note) Please connect the terminal 4 and 14 to the GND.

●Pin Assignment



●True Table

Vcc	VIN	VENA	Output Transistor
L	×	×	OFF
H	H	H	OFF
H	H	L	OFF
H	L	H	OFF
H	L	L	ON

●Recommended Operating Conditions (Ta=25°C)

Item	Symbol	min.	typ.	max.	Unit
Supply Voltage	VCC	4.5	5.0	5.5	V
Output Current	Ic IF			3	A
Output Voltage	VCE VR			70	V
Sensing Voltage	Vs			1.0	V
Junction Temperature	Tj	-25		120	°C