

TD62064APA

4CH HIGH-CURRENT DARLINGTON SINK DRIVER

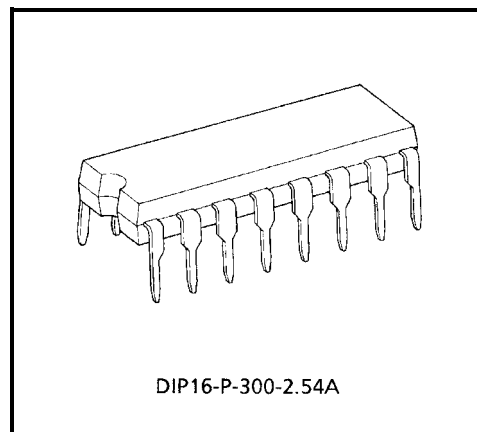
The TD62064APA is high-voltage, high-current darlington driver comprised of four NPN darlington pairs. All units feature integral clamp diodes for switching inductive loads.

Applications include relay, hammer, lamp and stepping motor drivers.

Please observe the thermal condition for using.

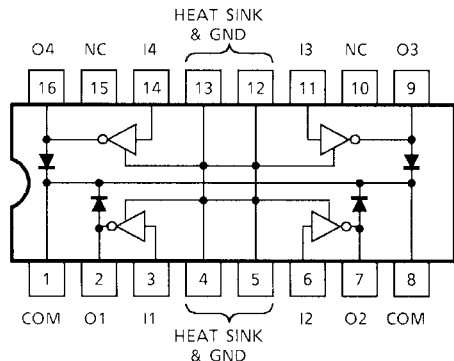
FEATURES

- Output current (single output) 1.5 A / ch (Max)
- High sustaining voltage output 50 V (Min)
- Output clamp diodes
- Input compatible with TTL and 5-V CMOS
- GND and SUB Terminal = Heat Sink
- Package type-APA : DIP-16 pin

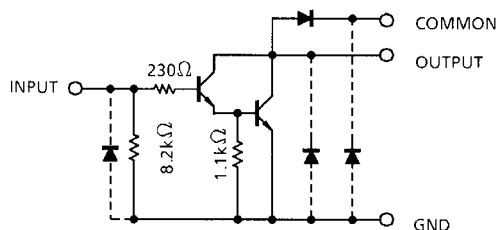


Weight: 1.11 g (Typ.)

PIN CONNECTION (TOP VIEW)



SCHEMATICS (EACH DRIVER)



Note: The input and output parasitic diodes cannot be used as clamp diodes.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Sustaining Voltage	V _{CE (SUS)}	-0.5~50	V
Output Current	I _{OUT}	1.5	A / ch
Input Current	I _{IN}	50	mA
Input Voltage	V _{IN}	-0.5~17	V
Clamp Diode Reverse Voltage	V _R	50	V
Clamp Diode Forward Current	I _F	1.50	A / ch
Power Dissipation	P _D	1.47 / 2.7 (Note)	W
Operating Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~150	°C

Note: On Glass Epoxy PCB (50 × 50 × 1.6 mm Cu 50%)

RECOMMENDED OPERATING CONDITIONS (Ta = -40~85°C)

CHARACTERISTIC		SYMBOL	CONDITION		MIN	TYP.	MAX	UNIT
Output Sustaining Voltage		V _{CE (SUS)}			0	—	50	V
Output Current		I _{OUT}	DC 1 Circuit, Ta = 25°C		0	—	1250	mA / ch
			T _{pw} ≤ 25 ms 4 Circuits On Ta = 85°C T _j = 120°C	Duty = 10%	0	—	1250	
			Duty = 50%	0	—	700		
Input Voltage		V _{IN}			0	—	8	V
		Output On	V _{IN (ON)}	I _{OUT} = 1.25 A	2.5	—	8	V
		Outut Off	V _{IN (OFF)}		0	—	0.4	V
Input Current		I _{IN}			0	—	20	mA
Clamp Diode Reverse Voltage		V _R			0	—	50	V
Clamp Diode Forward Current		I _F			—	—	1.25	A
Power Dissipation		P _D	Ta = 85°C	(Note)	—	—	1.4	W

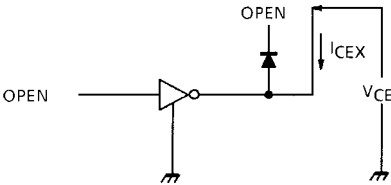
Note: On Glass Epoxy PCB (50 × 50 × 1.6 mm Cu 50%)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

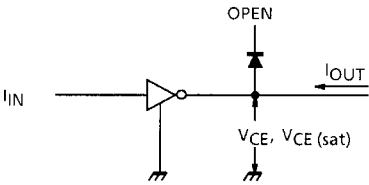
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT
Output Leakage Current	ICEX	1	VCE = 50 V, Ta = 25°C	—	—	50	μA
			VCE = 50 V, Ta = 85°C	—	—	500	
Collector-Emitter Saturation Voltage	VCE (sat)	2	IOUT = 1.25 A, IIN = 2 mA	—	—	1.6	V
			IOUT = 0.75 A, IIN = 935 μA	—	—	1.25	
DC Current Transfer Ratio	hFE	2	VCE = 2 V	IOUT = 1.0 A	—	800	
				IOUT = 1.25 A	—	1500	
Input Voltage (Output On)	VIN (ON)	3	IOUT = 1.25 A, IIN = 2 mA	—	—	2.4	V
Clamp Diode Reverse Current	IR	4	VR = 50 V, Ta = 25°C	—	—	50	μA
			VR = 50 V, Ta = 85°C	—	—	100	
Clamp Diode Forward Voltage	VF	5	IF = 1.25 A	—	—	2	V
Input Capacitance	CIN	6	VIN = 0 V, f = 1MHz	—	15	—	pF
Turn-On Delay	tON	7	CL = 15 pF, VOUT = 50 V RL = 40 Ω	—	0.1	—	μs
Turn-Off Delay	tOFF			—	1.0	—	

TEST CIRCUIT

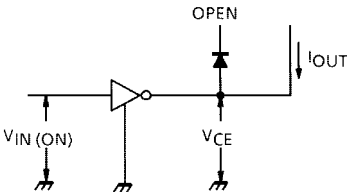
1. ICEX



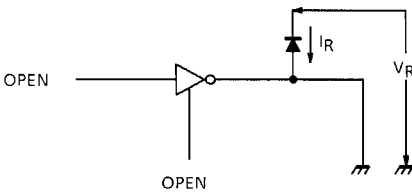
2. VCE (sat), hFE



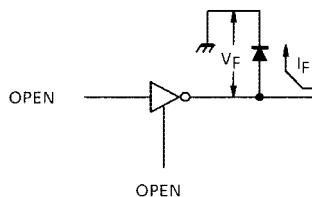
3. VIN (ON)



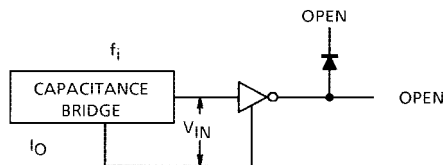
4. IR



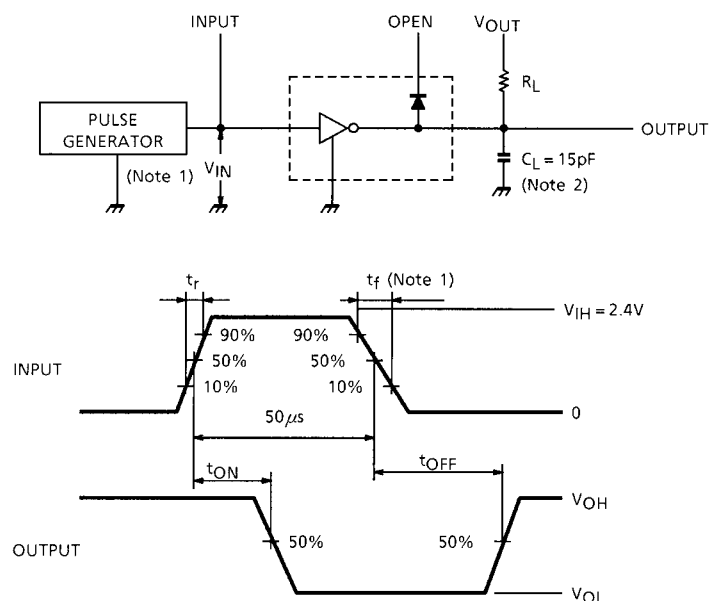
5. V_F



6. C_{IN}



7. t_{ON} , t_{OFF}



Note 1: Pulse Width 50 μ s, Duty Cycle 10%
Output Impedance 50 Ω , $t_r \leq 5$ ns, $t_f \leq 10$ ns
Note 2: C_L includes probe and jig capacitance.

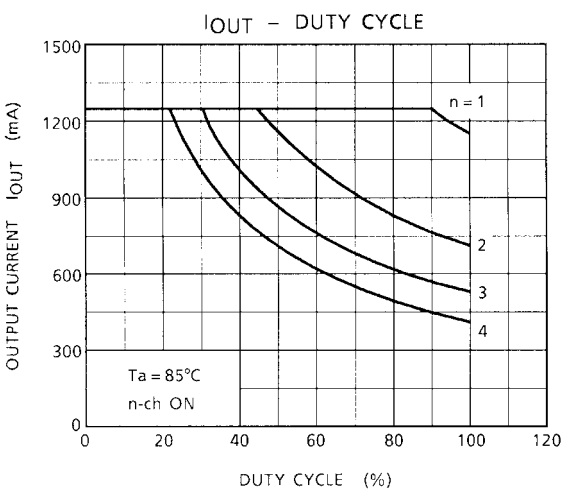
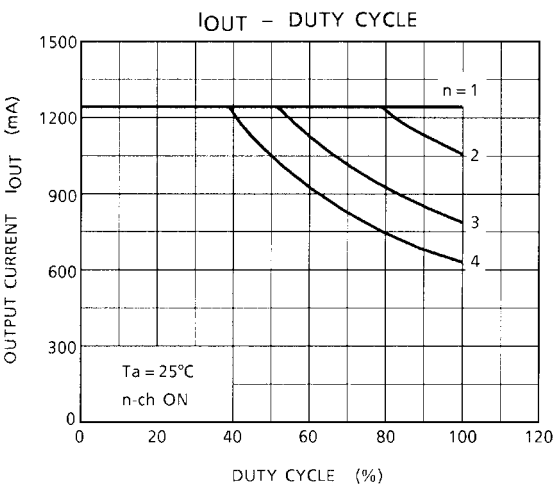
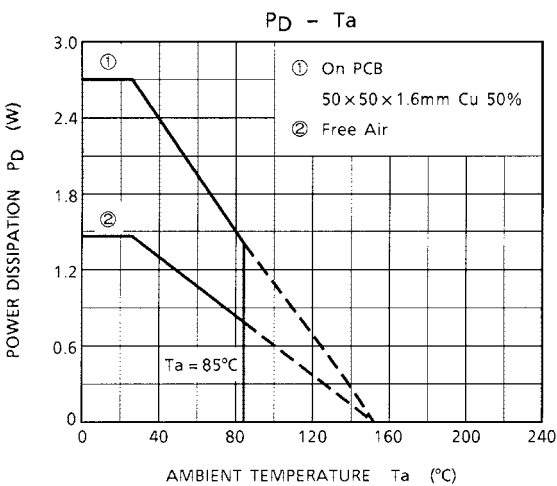
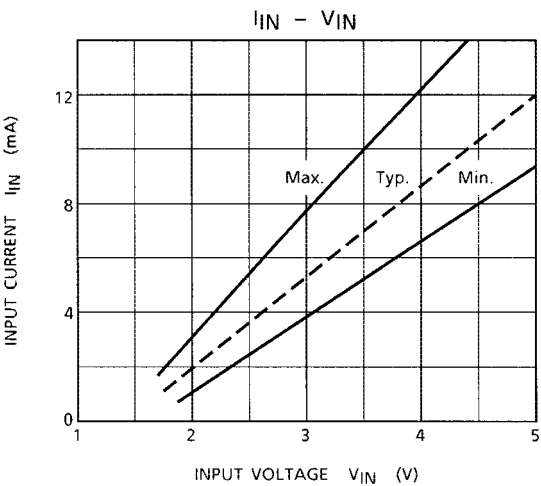
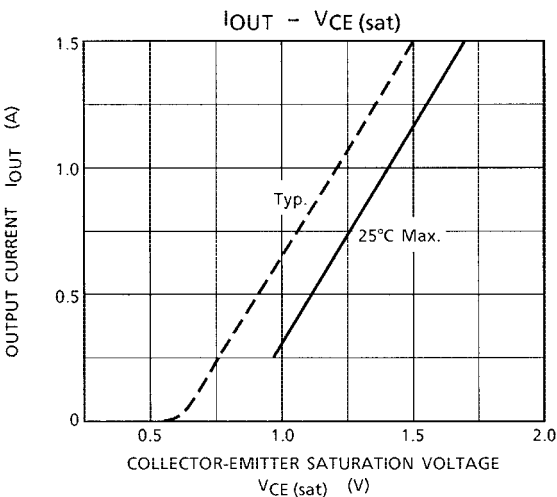
PRECAUTIONS for USING

This IC does not include built-in protection circuits for excess current or overvoltage.

If this IC is subjected to excess current or overvoltage, it may be destroyed.

Hence, the utmost care must be taken when systems which incorporate this IC are designed.

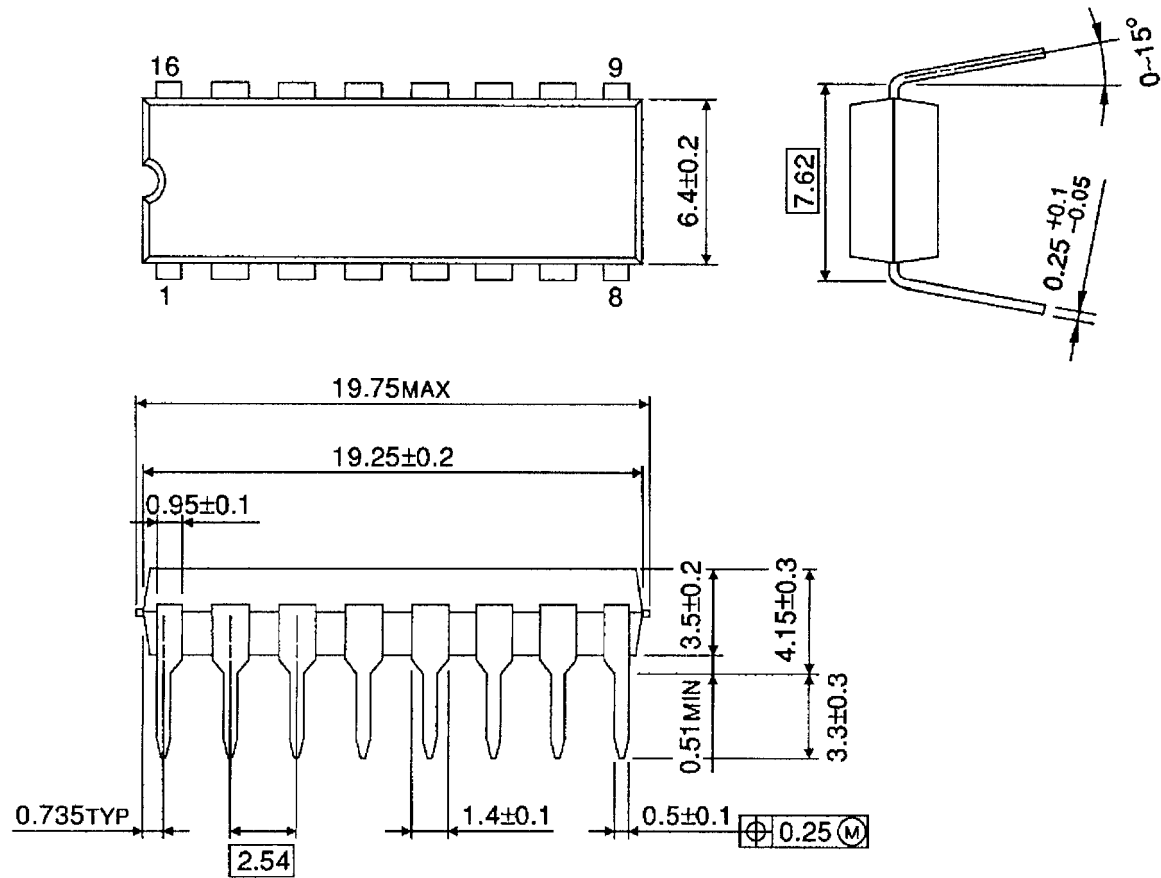
Utmost care is necessary in the design of the output line, COMMON and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



PACKAGE DIMENSIONS

DIP16-P-300-2.54A

Unit : mm



Weight: 1.11 g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EBA

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