INTEGRATED CIRCUIT **TOSHIBA** TECHNICAL DATA

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT TD62783AP, TD62783F, TD62783AF TD62784AP, TD62784F, TD62784AF SILICON MONOLITHIC

8CH HIGH-VOLTAGE SOURCE DRIVER

The TD62783AP/F/AF Series are comprised of eight source current Transistor Array.

These drivers are specifically designed for fluorescent display applications.

Applications include relay, hammer and lamp drivers.

FEATURES

High output voltage Type-AP, AF : $V_{CC} = 50V$ MIN. Type-F $V_{CC} = 35V MIN.$

Output current (single output) IOUT = -500mA MIN.

Output clamp diodes

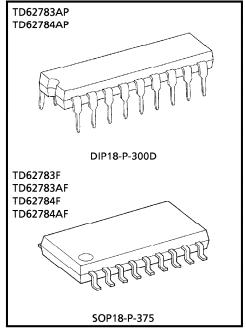
Single supply voltage

Input compatible with various types of logic

Package Type-AP : DIP-18pin Package Type-F, AF: SOP-18pin

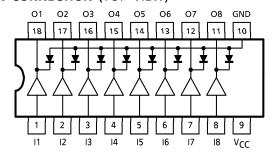
TYPE	DESIGNATION			
TD 60700 A D / E / A E				

TD62783AP/F/AF | TTL, 5V CMOS TD62784AP/F/AF $6\sim15V$ PMOS, CMOS

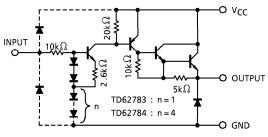


Weight DIP18-P-300D : 1.47g (Typ.) SOP18-P-375 : 0.41g (Typ.)

PIN CONNECTION (TOP VIEW)



SCHEMATICS (EACH DRIVER)



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

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others. These TOSHIBA products are intended for use in general commercial applications (office equipment, communication equipment, measuring equipment, domestic appliances, etc.), please make sure that you consult with us before you use these TOSHIBA products in equipment which requires extraordinarily high quality and/or reliability, and in equipment which may involve the threatening or critical application, including by not limited to such uses as atomic energy control, airplane or spaceship instrumentation, traffic signals, medical instrumentation, combustion control, all types of safety devices, etc. TOSHIBA cannot accept and hereby discalaims liability for any damage which may occur in case the TOSHIBA products are used in such equipment or applications without prior consultation with TOSHIBA.

TD62783AP, TD62783F, TD62783AF TD62784AP, TD62784F, TD62784AF

TECHNICAL DATA

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTI	С	SYMBOL	RATING	UNIT		
Supply Voltage	AP, AF	Van	50	V		
Supply Voltage	F	Vcc	35]		
Output Current		IOUT	- 500	mA / ch		
Input Voltage		V _{IN} (Note 1)	15	V		
input voitage		V _{IN} (Note 2)	30	<u> </u>		
Clamp Diode Reverse AP, AF		V-5	50	V		
Voltage	F	V _R	35	V		
Clamp Diode Forward Current		ΙF	500	mA		
Power Dissipation	AP	P _D (Note 3)	1.47	W		
rower Dissipation	F, AF	FD (Note 3)	0.96			
Operating Temperature	9	T _{opr}	- 40∼85	°C		
Storage Temperature		T _{stg}	- 55∼150	°C		

(Note 1) Only TD62783AP/F/AF

(Note 2) Only TD62784AP/F/AF

(Note 3) Delated above 25°C in the proportion of 11.7W/°C (AP Type), 7.7W/°C (F, AF Type).

RECOMMENDED OPERATING CONDITIONS ($Ta = -40 \sim 85$ °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT		
Supply Voltage AP, A		AP, AF	Vec	_		_	_	50	V	
Supply	voitage		F	Vcc	_		_	_	35	\ \
						Duty = 10% 8 Circuits	_	_	- 260	
Output	Current				Ta = 85°C T _i = 120°C	Duty = 50% 8 Circuits		_	- 59	ا مر ۸ رواد
Output Current			lout	$T_{pw} = 25 \text{ms}$	Duty = 10% 8 Circuits	_	_	- 180	mA / ch	
			AF, F			Duty = 50% 8 Circuits	_	_	- 38	
Input		TD62783AP / F / AF		\/	<u> </u>		_	_	12	V
Voltage	Voltage TD62784AP / F / AF		VIN		_	_	24	V		
	Output	TD62783AF	P/F/AF			2.0	5.0	15		
Input	On	TD62784AF	P/F/AF	VIN (ON)		_	4.5	12.0	30] _v
Voltage	Output	TD62783AF	P/F/AF			0	_	0.8]	
	Off	TD62784AF	P/F/AF	VIN (OFF)		_	0	_	2.0	
Clamp Diode Reverse AP				_	_	50	V			
Voltage F, AF			V _R		_	_	35	\ \ \		
Clamp Diode Forward Current			IF	_		_	_	400	mA	
Power Dissipation AP			PD		_	_	_	0.52	w	
Power Dissipation F, AF			ן יט		_		_	0.35	\ \v	

TD62783AP – 2
1995 – 5 – 29
TOSHIBA CORPORATION

INTEGRATED CIRCUIT **TOSHIBA**

TD62783AP, TD62783F, TD62783AF TD62784AP, TD62784F, TD62784AF

TECHNICAL DATA

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

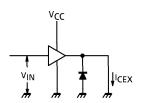
CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current		eakage current i iccv i i i		V _C C = V _C C MAX. V _{IN} = 0.4V Ta = 25°C	_	_	100	μΑ
			2	$V_{IN} = V_{IN}$ (ON), $I_{OUT} = -350$ mA		_	2.0	V
Output 9	Saturation Voltage	V _{CE} (sat)		$V_{IN} = V_{IN} (ON)$, $I_{OUT} = -225 mA$			1.9	
				$V_{IN} = V_{IN}$ (ON), $I_{OUT} = -100$ mA	_	_	1.8	
	TD62783AP/F/AF		3	$V_{IN} = 2.4V$		36	52	
Input	TD02763AF7F7AF	IN (ON)		$V_{IN} = 3.85V$		180	260] ,,,
Current	TDC2794AD / F / AF			V _{IN} = 5V		92	130	μ A
	TD62784AP/F/AF			V _{IN} = 12V		790	1130	
TD62783AP/F/AF		VIN (ON)	4	V _{CE} = 2.0V			2.0	V
Input	Input TD62784AP/F/AF			I _{OUT} = -350mA	_	_	4.5	
Voltage	TD62783AP/F/AF	VIN (OFF)		I _{OUT} = -500μA	0.8	_	_	
	TD62784AP/F/AF				2.0	_	_	
Supply Current		ICC (ON)	3	$V_{IN} = V_{IN} (ON), V_{CC} = 50V$	_	_	2.5	mA / ch
Clamp Diode AP, AF Reverse Current F		IR	5	V _R = 50V	_	_	50	μΑ
		יאי		V _R = 35V	_	_	50	
Clamp Diode Forward Voltage		VF	6	I _F = 350mA	_	_	2.0	V
Turn-On Delay		ton	7	$V_{CC} = V_{CC} MAX. R_L = 125\Omega$	_	0.15	_	
Turn-Off Delay		tOFF	<u> </u>	$C_L = 15 pF, R_L = 88 \Omega$ (F)		1.8	_	μ s

TD62783AP – 3	
1995 – 5 – 29	

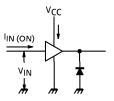
TECHNICAL DATA

TEST CIRCUIT

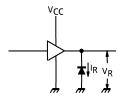
1. ICEX



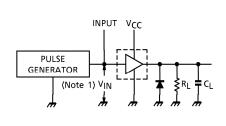
3. I_{IN} (ON), I_{CC}



5. I_R



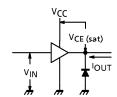
7. ton, toff



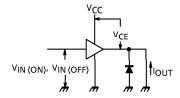
(Note 1) Pulse width $50\mu s$, duty cycle 10% Output impedance 50Ω , $t_r \le 5ns$, $t_f \le 10ns$

(Note 2) C_L includes probe and jig capacitance

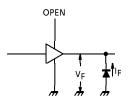
2. VCE (sat)

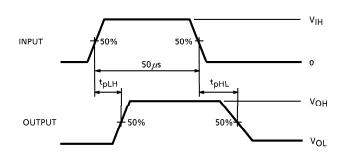


4. VIN (ON), VIN (OFF)



6. V_F

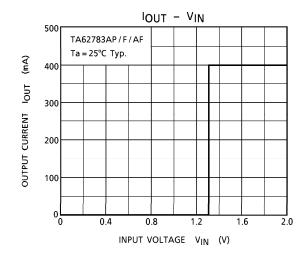


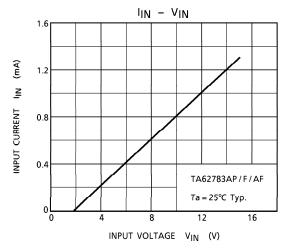


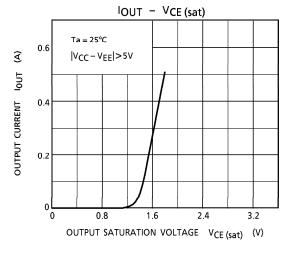
INTEGRATED CIRCUIT **TOSHIBA**

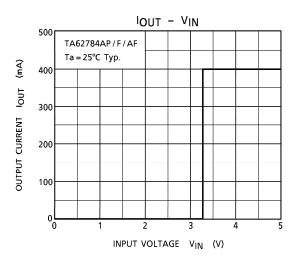
TECHNICAL DATA

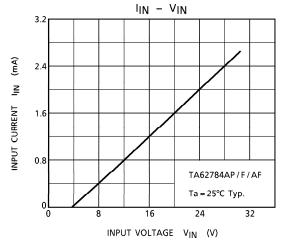
TD62783AP, TD62783F, TD62783AF TD62784AP, TD62784F, TD62784AF

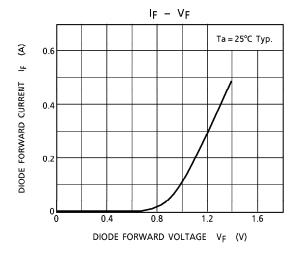












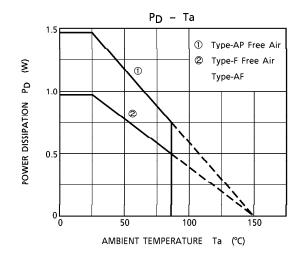
TD62783AP – 5 1995 – 5 – 29

TOSHIBA CORPORATION

INTEGRATED CIRCUIT **TOSHIBA**

TECHNICAL DATA

TD62783AP, TD62783F, TD62783AF TD62784AP, TD62784F, TD62784AF

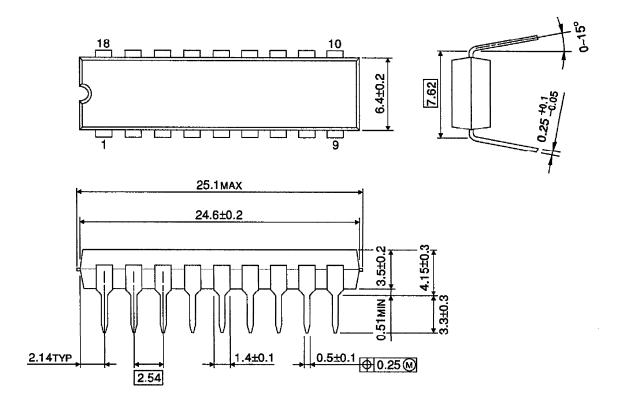


T	D62783AP – 6
1	995 – 5 – 29

TECHNICAL DATA

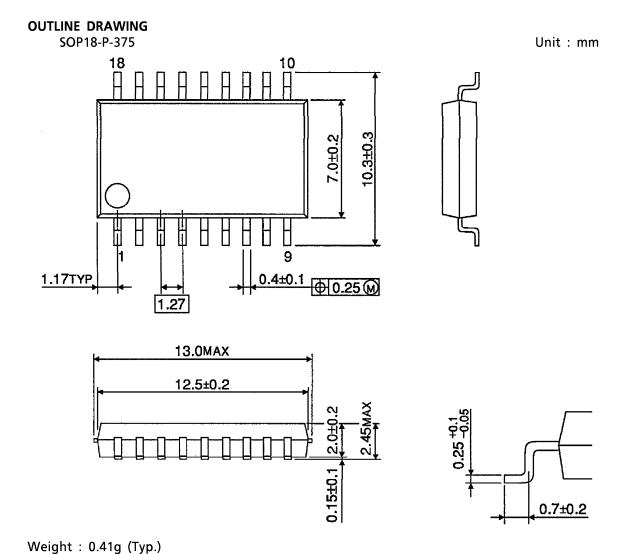
OUTLINE DRAWING DIP18-P-300D

Unit: mm



Weight: 1.47g (Typ.)

TD62783AP – 7 1995 – 5 – 29 TECHNICAL DATA



TD62783AP – 8* 1995 – 5 – 29

TOSHIBA CORPORATION