XD54563 DIP-18

DESCRIPTION

XD54563 is an eight-circuit output-sourcing Darlington transistor array. The circuits are made of PNP and NPN transistors. This semiconductor integrated circuit performs high-current driving with extremely low input-current supply.

FEATURES

- High breakdown voltage ($BV_{CEO} \geq 50V$)
- High-current driving (Io(max) = –500mA)
- With clamping diodes
- Driving available with PMOS IC output of 6 ~ 16V or with TTL output
- Wide operating temperature range (Ta = –20 to +75°C)
- Output current-sourcing type

APPLICATION

Drives of relays, printers, LEDs, fluorescent display tubes and lamps, and interfaces between MOS-bipolar logic systems and relays, solenoids, or small motors

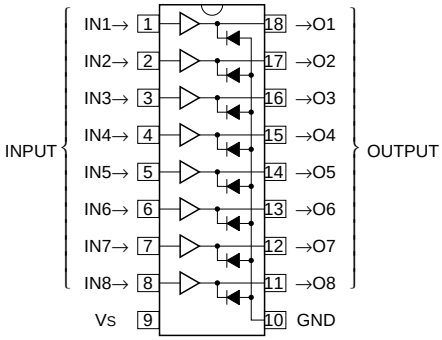
FUNCTION

The XD54563 each have eight circuits,
which are made of input inverters and current-sourcing outputs. The outputs are made of PNP transistors and NPN Darlington transistors. The PNP transistor base current is constant. A clamping diode is provided between each output and GND. V_S and GND are used commonly among the eight circuits.

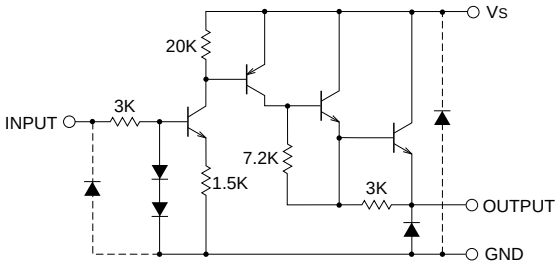
The inputs have resistance of 3kΩ, and voltage of up to 10V is applicable. Output current is 500 mA maximum. Supply voltage V_S is 50V maximum.

The XD54563 is enclosed in a molded small flat package, enabling space-saving design.

PIN CONFIGURATION



CIRCUIT DIAGRAM



The eight circuits share the Vs and GND.

The diode, indicated with the dotted line, is parasitic, and cannot be used.

Unit : Ω

ABSOLUTE MAXIMUM RATINGS (Unless otherwise noted, Ta = –20 ~ +75°C)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CEO} #	Collector-emitter voltage	Output, L	–0.5 ~ +50	V
V_S	Supply voltage		50	V
V_I	Input voltage		–0.5 ~ +10	V
I_O	Output current	Current per circuit output, H	–500	mA
I_F	Clamping diode forward current		–500	mA
V_R #	Clamping diode reverse voltage		50	V
Pd	Power dissipation	Ta = 25°C, when mounted on board	1.79(P)/1.10(FP)	W
Topr	Operating temperature		–20 ~ +75	°C
Tstg	Storage temperature		–55 ~ +125	°C

: Unused I/O pins must be connected to GND.

RECOMMENDED OPERATING CONDITIONS (Unless otherwise noted, Ta = –20 ~ +75°C)

Symbol	Parameter		Limits			Unit
			min	typ	max	
V_S	Supply voltage		0	—	50	V
I_O	Output current (Current per 1 circuit when 8 circuits are coming on simultaneously)	Duty Cycle P : no more than 8% FP : no more than 5%	0	—	–350	mA
		Duty Cycle P : no more than 55% FP : no more than 30%	0	—	–100	
V_{IH}	"H" input voltage		2.4	—	10	V
V_{IL}	"L" input voltage		0	—	0.2	V

ELECTRICAL CHARACTERISTICS (Unless otherwise noted, Ta = –20 ~ +75°C)

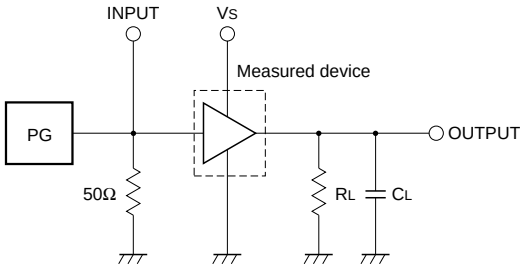
Symbol	Parameter	Test conditions	Limits			Unit
			min	typ*	max	
$I_{S\ (leak)}$ #	Supply leak current	V_S = 50V, V_I = 0.2V	—	—	100	µA
$V_{CE\ (sat)}$	Collector-emitter saturation voltage	V_S = 10V, V_I = 2.4V, I_O = –350mA	—	1.6	2.4	V
		V_S = 10V, V_I = 2.4V, I_O = –100mA	—	1.45	2.0	
I_I	Input current	V_I = 3V	—	0.6	1.0	mA
		V_I = 10V	—	2.9	5.0	
I_S	Supply current	V_S = 50V, V_I = 3V (all input)	—	5.6	15.0	mA
V_F	Clamping diode forward voltage	I_F = –350mA	—	–1.2	–2.4	V
I_R #	Clamping diode reverse current	V_R = 50V	—	—	100	µA

* : The typical values are those measured under ambient temperature (Ta) of 25°C. There is no guarantee that these values are obtained under any conditions.
# : Unused I/O pins must be connected to GND.

SWITCHING CHARACTERISTICS (Unless otherwise noted, Ta = 25°C)

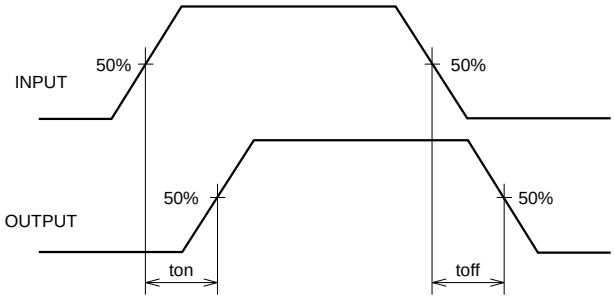
Symbol	Parameter	Test conditions	Limits			Unit
			min	typ	max	
ton	Turn-on time	C_L = 15pF (note 1)	—	100	—	ns
toff	Turn-off time		—	4800	—	ns

NOTE 1 TEST CIRCUIT



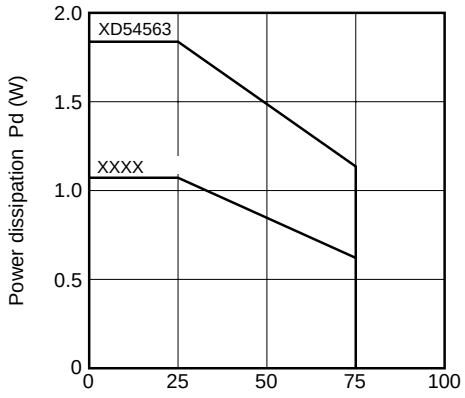
(1) Pulse generator (PG) characteristics : PRR = 1kHz,
tw = 10µs, tr = 6ns, tf = 6ns, ZO = 50Ω
VI = 0 to 2.4V
(2) Input-output conditions : RL = 30Ω, VS = 10V
(3) Electrostatic capacity CL includes floating capacitance at connections and input capacitance at probes

TIMING DIAGRAM

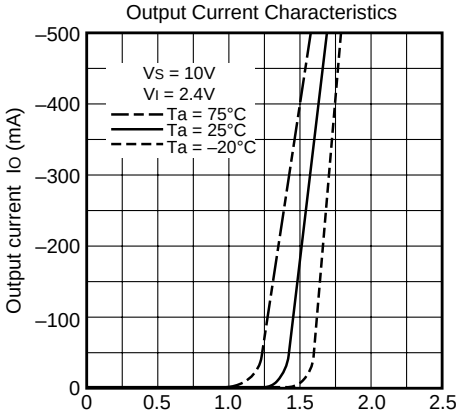


TYPICAL CHARACTERISTICS

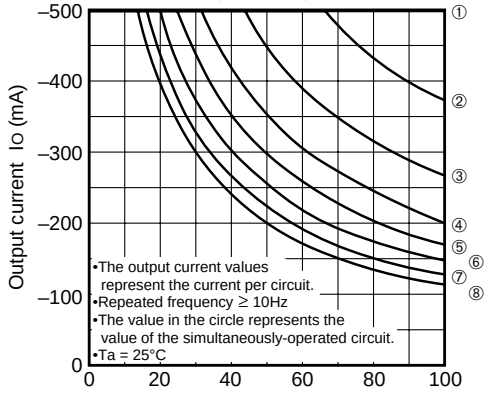
Thermal Derating Factor Characteristics



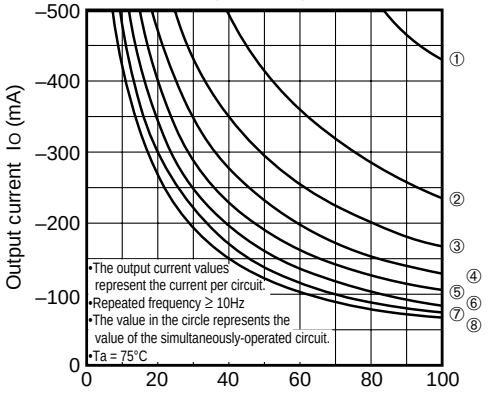
Output Saturation Voltage
Output Current Characteristics



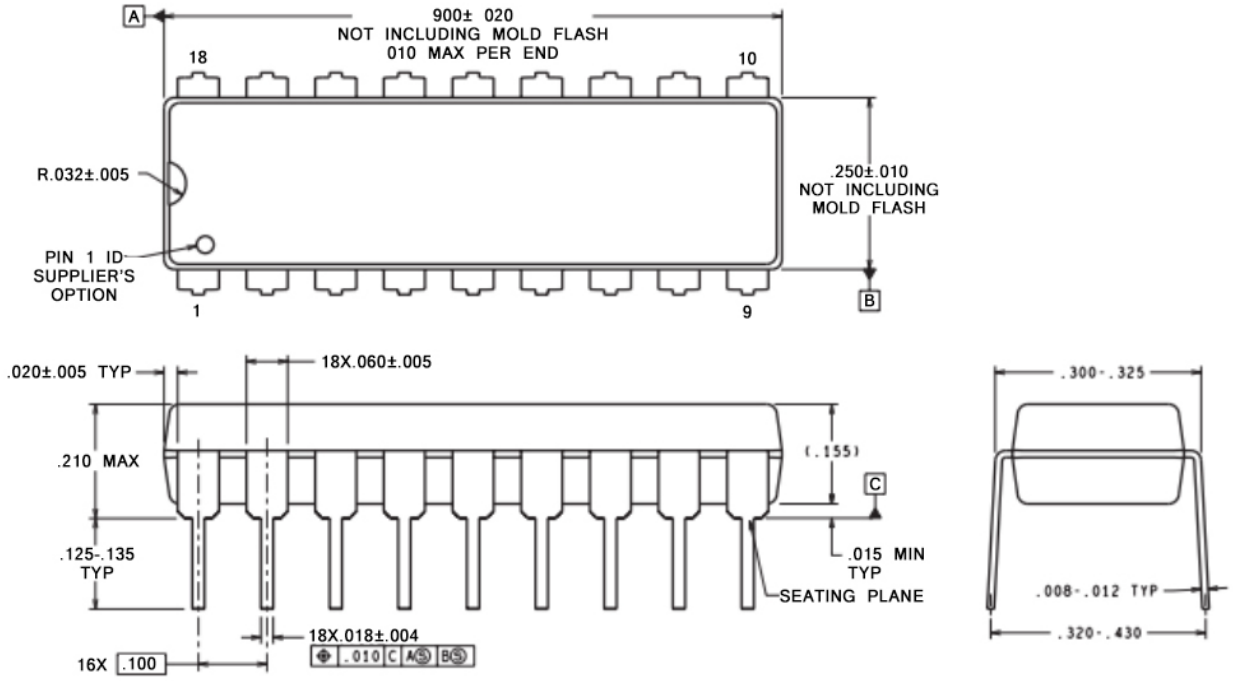
Duty-Cycle-Output Current Characteristics
(XD54563)



Duty-Cycle-Output Current Characteristics
(XD54563)



DIP



以上信息仅供参考.如需帮助联系客服人员。谢谢 XINLUDA

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Darlington Transistors ***category:***

Click to view products by XINLUDA ***manufacturer:***

Other Similar products are found below :

281287X SMMBT6427LT1G 2N7371 BDV64B JANTXV2N6287 028710A SMMBTA64LT1G 2N6350 2SB1214-TL-E SMMBTA14LT1G SBSP52T1G NJVMJD117T4G Jantx2N6058 2N6353 LB1205-L-E 500-00005 2N6053 NJVMJD112G Jan2N6350 Jantx2N6352 Jantx2N6350 BULN2803LVS ULN2001N 2SB1383 2SB1560 2SB852KT146B TIP112TU TIP122TU BCV27 MMBTA13-TP MMBTA14-TP MMSTA28T146 BSP50H6327XTSA1 KSH122TF NTE2557 NJVNJD35N04T4G TIP115 MPSA29-D26Z MJD127T4 FJB102TM BCV26E6327HTSA1 BCV46E6327HTSA1 BCV47E6327HTSA1 BSP61H6327XTSA1 BU941ZPFI 2SB1316TL 2SD1980TL NTE2350 NTE245 NTE246