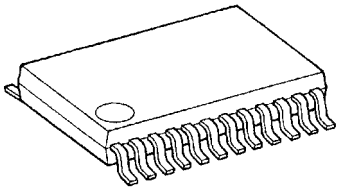
TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI−CHIP

TD62M4503AFN

POWER MOS FET 4CH SINK DRIVER

TD62M4503AFN is 1CHIP 4ch FET Sink Driver built in Discrete Power MOS FET (2SK1078) × 4 and Diodes (1SS184).



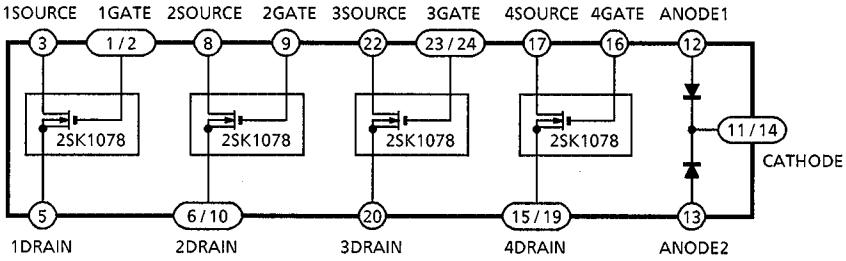
SSOP24-P-300-0.65A

Weight: 0.14 g (Typ.)

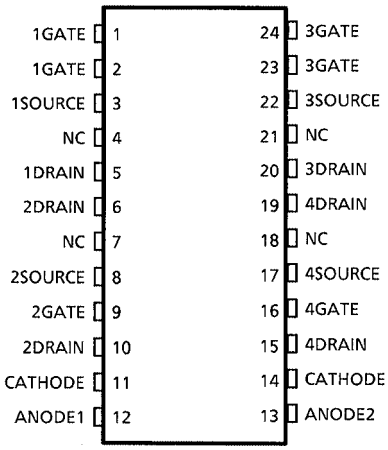
FEATURES

- 4V Drive
- Low ON Resistance : $R_{DS\ (ON)}$ = 0.58 Ω (Typ.)
- Low Leakage Current
  : I_{GSS} = ±3 μA (Max.) (V_{GS} = ±16 V)
  : I_{GSS} = 100 μA (Max.) (V_{GS} = 60 V)
- Enhancement Type
  : V_{th} = 0.8~2.0 V (V_{DS} = 10 V, I_D = 1 mA)
- Small Package : SSOP 24 (0.65 mm Pitch)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



NC : Non Connection

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain−Source Voltage		V_{DSS}	60	V
Drain−Gate Voltage (R_{GS} = 20 kΩ)		V_{DGR}	60	V
Gate−Source Voltage		V_{GSS}	±20	V
Drain Current	DC	I_D	0.8	A
	Pulse	I_{DP}	1.6	A
Diode Reverse Voltage		V_R	80	V
Diode Average Rectifier Current		I_O	0.1	A
Power Dissipation	—	P_D	0.78	W
	(Note 1)		0.89	W
Junction Temperature		T_j	150	°C
Operating Temperature		T_{opr}	−40~85	°C
Storage Temperature		T_{stg}	−55~150	°C

Note 1: On Glass Epoxy PCB (50 × 50 × 1.6 mm Cu 40%)
This device is an electrostatic sensitivity device. Please handle with caurion.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

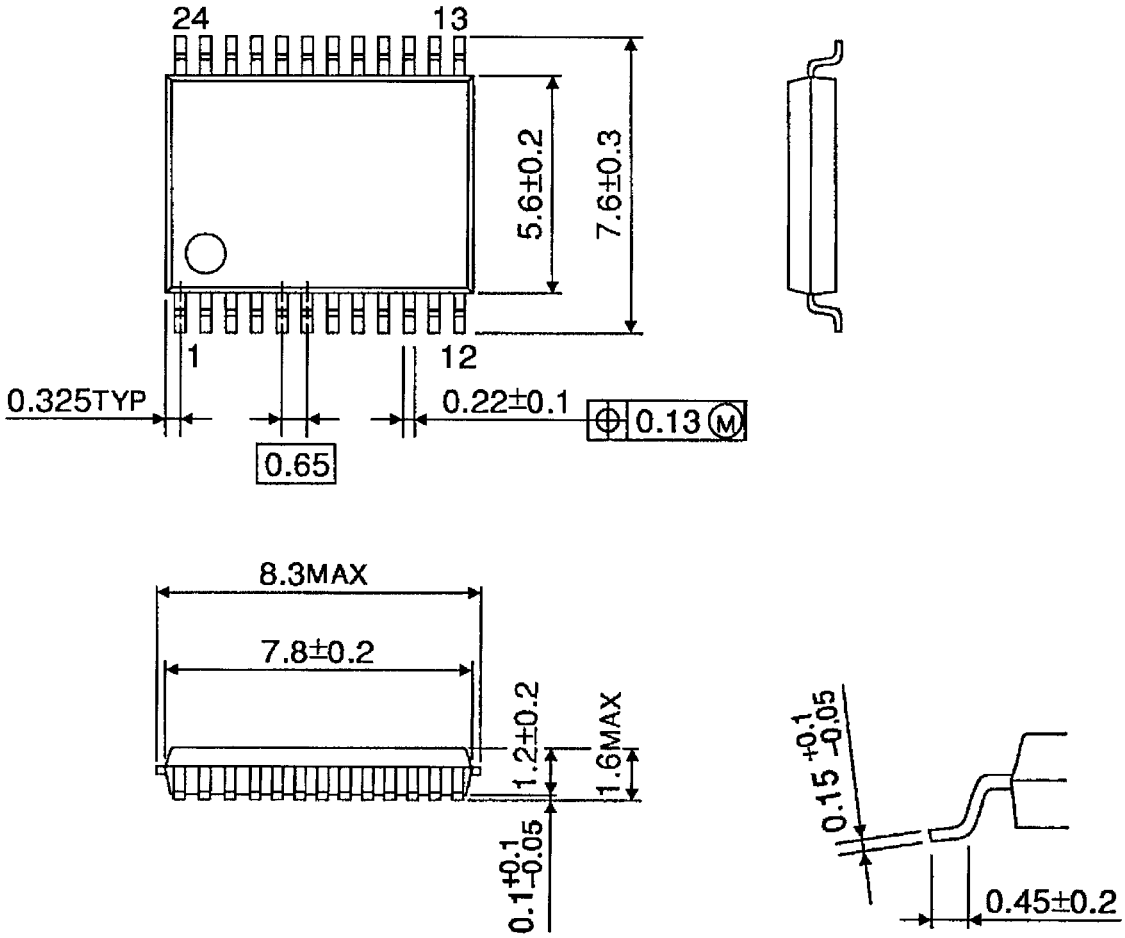
CHARACTERISTIC	SYMBOL	TEST CIR−CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT
Gate Leakage Current	I_{GSS}	—	V_{GS} = ±16 V, V_{DS} = 0 V	—	—	±3	μA
Drain Cut−off Current	I_{DSS}	—	V_{DS} = 60 V, V_{GS} = 0 V	—	—	100	μA
Drain Source Braeakdown Voltage	$V_{(BR)\ DSS}$	—	I_D = 10 mA, V_{GS} = 0 V	60	—	—	V
Gate Thresold Voltage	V_{th}	—	V_{DS} = 10 V, I_D = 1 mA	0.8	—	2.0	V
Drain ON Current	$I_{D\ (ON)}$	—	V_{DS} = 4 V, V_{GS} = 4 V	0.8	—	—	A
Drain−Source ON Resistance	$R_{DS\ (ON)}$	—	V_{GS} = 4 V, I_D = 0.4 A	—	0.75	1.1	Ω
			V_{GS} = 10 V, I_D = 0.4 A	—	0.58	0.70	Ω
Diode Forward Voltage	$V_{F\ (1)}$	—	I_F = 1 mA	—	0.60	—	V
	$V_{F\ (2)}$	—	I_F = 10 mA	—	0.72	—	
	$V_{F\ (3)}$	—	I_F = 100 mA	—	1.0	1.4	
Diode Reverse Current	$I_{R\ (1)}$	—	V_R = 30 V	—	—	0.1	μA
	$I_{R\ (2)}$	—	V_R = 80 V	—	—	0.5	μA

PRECAUTIONS for USING

This IC does not integrate protection circuits such as overcurrent and overvoltage protectors. Thus, if excess current or voltage is applied to the IC, the IC may be damaged. Please design the IC so that excess current or voltage will not be applied to the IC.
Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short−circuit between outputs, air contamination fault, or fault by improper grounding.

PACKAGE DIMENSIONS

SSOP24−P−300−0.65A Unit: mm



Weight: 0.14 g (Typ.)

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