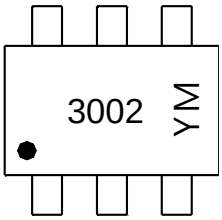
Marking Information



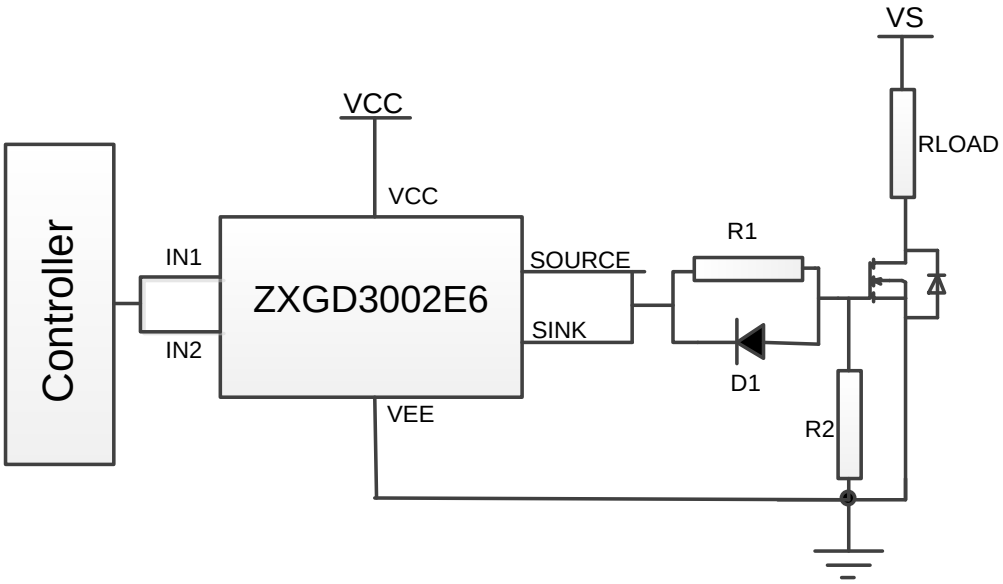
3002 = Product Type Marking Code
YM = Date Code Marking
Y or $\overline{Y}$ = Year (ex: I = 2021)
M or $\overline{M}$ = Month (ex: 9 = September)

Date Code Key

Year	2010	…	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Code	X	…	I	J	K	L	M	N	O	P	R	S

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Typical Application Circuit



R1, D1 combination can be used for variable turn on and turn off times.

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	20	V
Input Voltage	V_{IN}	20	V
Output Difference Voltage (Source – Sink)	$\Delta V_{(source-sink)}$	±7	V
Peak Pulsed Output Current (Source & Sink)	I_{OM}	±9	A
Peak Pulsed Input current	I_{IN1}, I_{IN2}	±1	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Notes 5 & 6) Linear Derating Factor	P_D	1.1 8.8	W mW/°C
Thermal Resistance, Junction to Ambient (Notes 5 & 6)	$R_{\theta JA}$	113	°C/W
Thermal Resistance, Junction to Lead (Note 7)	$R_{\theta JL}$	105	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

ESD Ratings (Note 8)

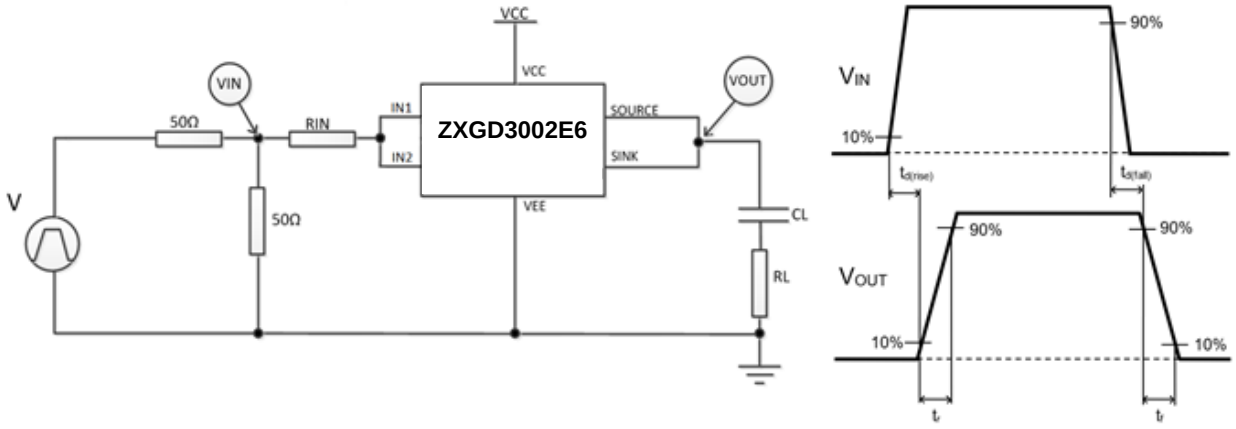
Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C
Electrostatic Discharge – Charged Device Model	ESD CDM	1000	V	IV

Notes:
5. For a device mounted on 25mm × 25mm 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions while operating in a steady-state. The heatsink is split in half with the pin 1 (V_{CC}) and pin 3 (V_{EE}) connected separately to each half.
6. For device with two active die running at equal power.
7. Thermal resistance from junction to solder-point at the end of each lead on pin 1 (V_{CC}) and pin 3 (V_{EE}).
8. Refer to JEDEC specification JESD22-A114, JESD22-A115, and JESD22-C101.

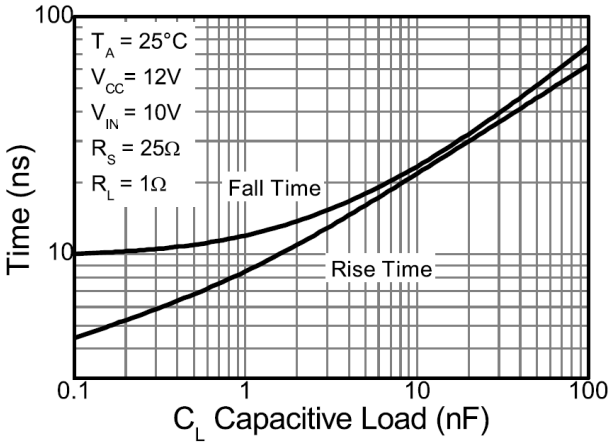
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output Voltage, High	$V_{OUT(hi)}$	—	V_{CC} – 0.4	—	V	I_{SOURCE} = 1µA
Output Voltage, Low	$V_{OUT(low)}$	—	V_{EE} + 0.4	—	V	I_{SINK} = 1µA
Source Output Leakage Current	$I_{L(SOURCE)}$	—	—	1	µA	V_{CC} = 20V, V_{IN1} = V_{IN2} = 0V
Sink Output Leakage Current	$I_{L(SINK)}$	—	—	1	µA	V_{CC} = 20V, V_{IN1} = V_{IN2} = V_{CC}
Quiescent Current	I_Q	—	—	50	nA	V_{CC} = 16V, V_{IN1} = V_{IN2} = 0V
Peak Pulsed Source Output Current	$I_{(SOURCE)M}$	1.6	2.2	—	A	I_{IN1}+ I_{IN2} = 10mA
Peak Pulsed Sink Output Current	$I_{(SINK)M}$	1.4	2	—	A	I_{IN1}+ I_{IN2} = -10mA
Peak Pulsed Source Output Current	$I_{(SOURCE)M}$	—	9	—	A	I_{IN1}+ I_{IN2} = 1A
Peak Pulsed Sink Output Current	$I_{(SINK)M}$	—	9	—	A	I_{IN1}+ I_{IN2} = -1A
Gate Driver Switching Times	$t_{D(RISE)}$ t_R $t_{D(FALL)}$ t_F	—	1.25 8.3 1.6 10.8	—	ns	V_{CC} = 12V, V_{EE} = 0V, V_{IN} = 0 to 10V, C_L = 1nF, R_L = 1Ω, R_{IN} = 25Ω
Gate Driver Switching Times	$t_{D(RISE)}$ t_R $t_{D(FALL)}$ t_F	—	3.6 105 6.9 115	—	ns	V_{CC} = 12V, V_{EE} = 0V, V_{IN} = 0 to 10V, C_L = 1nF, R_L = 1Ω, R_{IN} = 1kΩ

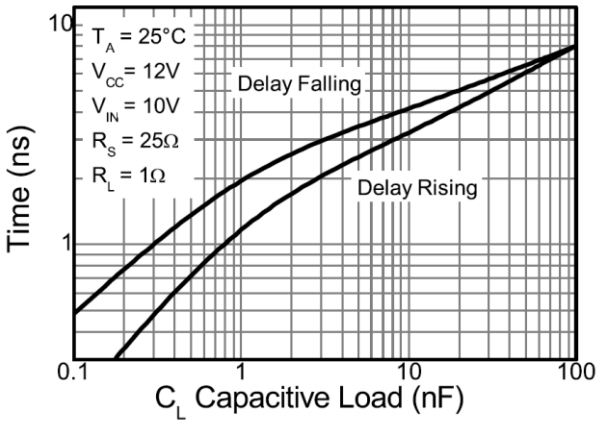
Switching Test Circuit and Timing Diagram



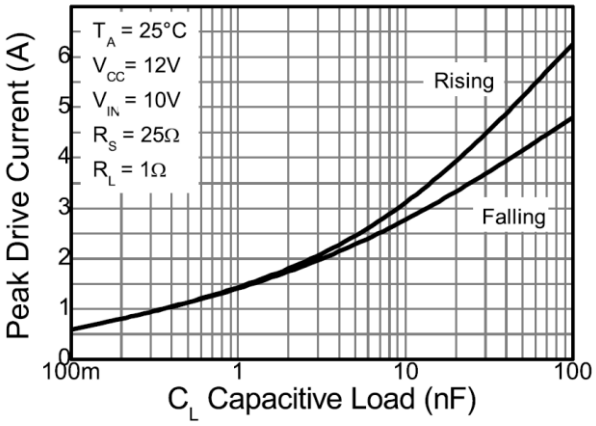
Typical Switching Characteristics (@T_A = +25°C, unless otherwise specified.)



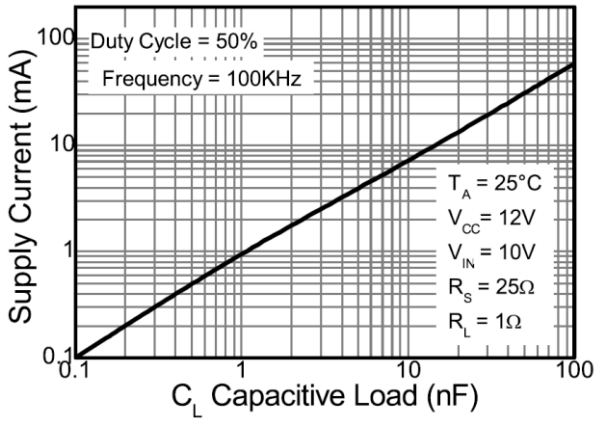
Rise and Fall Time



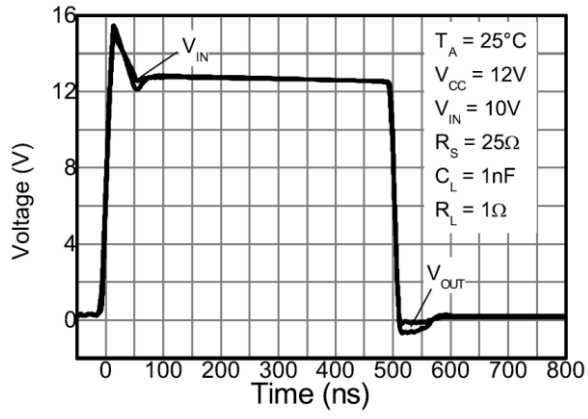
Propagation Delay



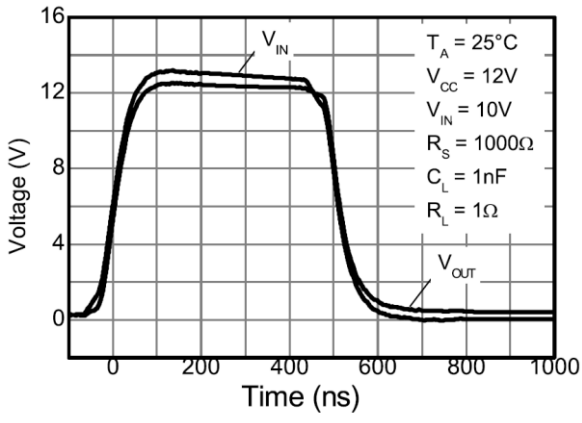
Peak Drive Current



Supply Current

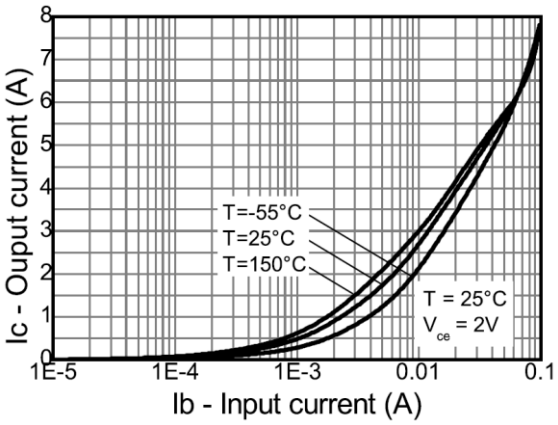


Switching Speed

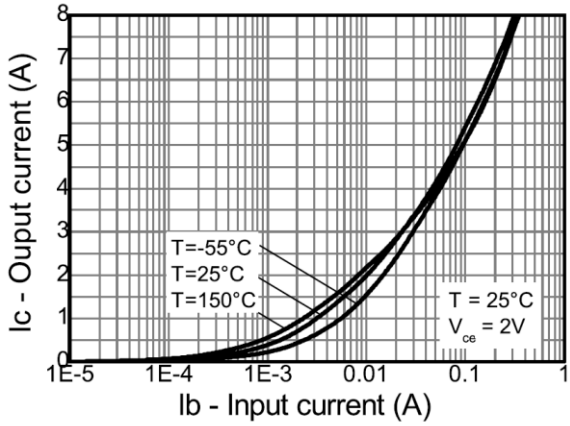


Switching Speed

Typical Switching Characteristics (Continued) (@T_A = +25°C, unless otherwise specified.)



Source Current Vs Input Current

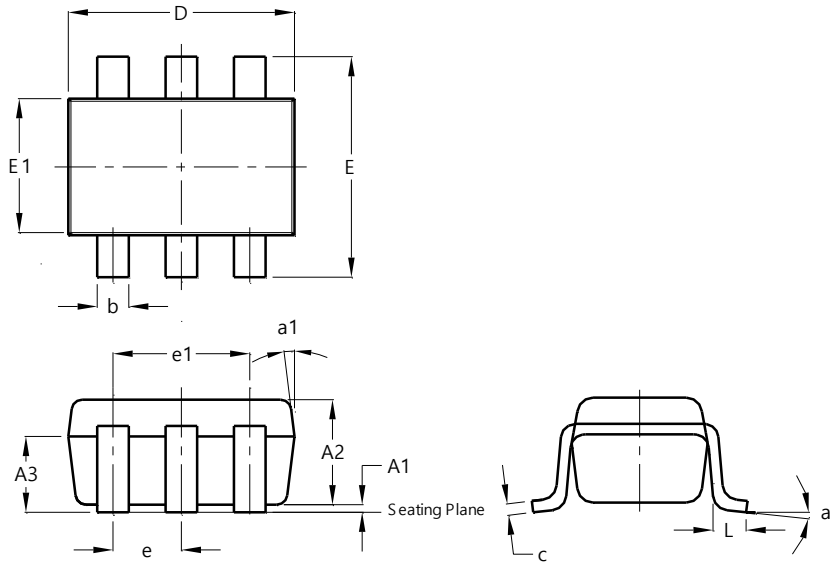


Sink Current Vs Input Current

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26

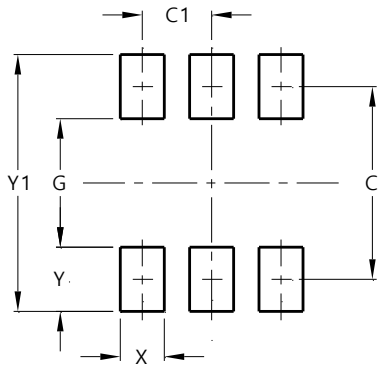


SOT26			
Dim	**Min**	**Max**	**Typ**
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26



Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

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