



DIO7552/7553

Precision Adjustable Current-Limited Power Distribution Switches

Features

- 70-mΩ High-Side MOSFET
- 2A Maximum Load Current
- $\pm 10\%$ Current-Limit Accuracy at 1.5A typically
- Adjustable Current Limit: 400mA–2000mA (typ)
- Operating Range: 2.7V to 5.5V
- 70μA Quiescent Current
- 2μs Fast Over current Response Typically
- Reverse Input-Output Voltage Protection
- 6kV HBM ESD Protection
- Green package: SOT23-6 and DFN2*2-6 is pin compatible

Application

- USB Ports & USB Hubs
- Digital TV and
- Set-Top Boxes
- VOIP Phones
- Short-Circuit Protections

Descriptions

The DIO7552/7553 is power distribution switches that intended for applications where precision current limiting is required or heavy capacitive loads and short circuits are encountered and provide up to 2A of continuous load current.

A programmable current-limit threshold is offered between 400mA and 2.0A (typ) via an external resistor. Current-limit accuracy is $\pm 10\%$. The power-switch rise and fall times are controlled to minimize current surges during turn on/off. A constant-current mode is used when the output load exceeds the current-limit threshold.

The DIO7552/7553 limits the output current to a safe level by using a constant-current mode when the output load exceeds the current-limit threshold. An internal reverse voltage comparator disables the power switch when the output voltage is driven higher than the input to protect devices on the input side.

Block Diagram

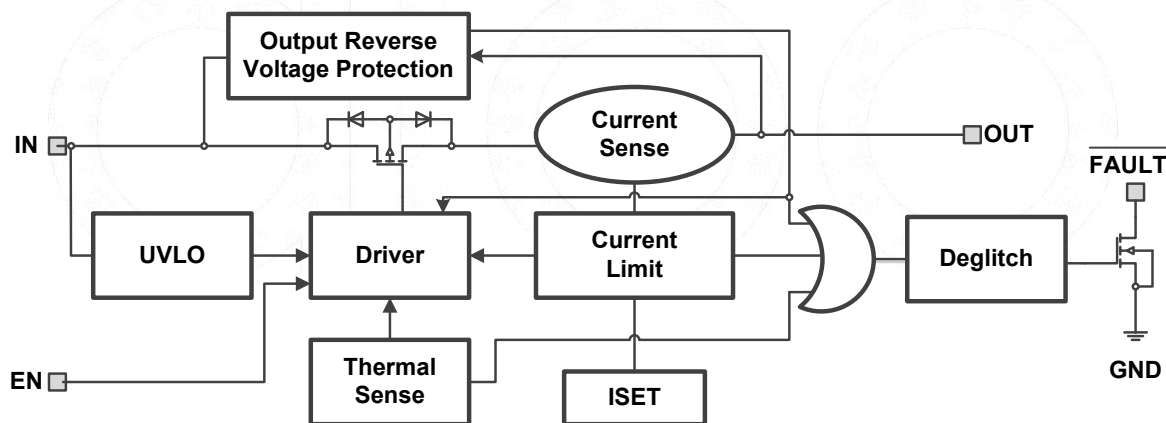


Figure 1 Functional Block Diagram



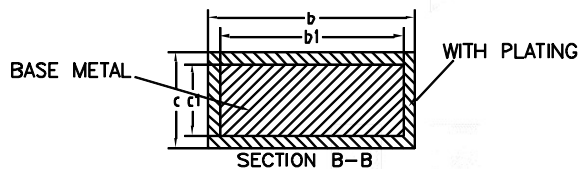
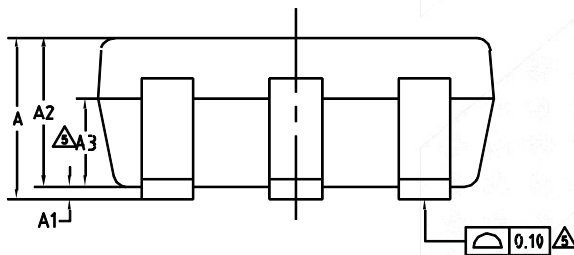
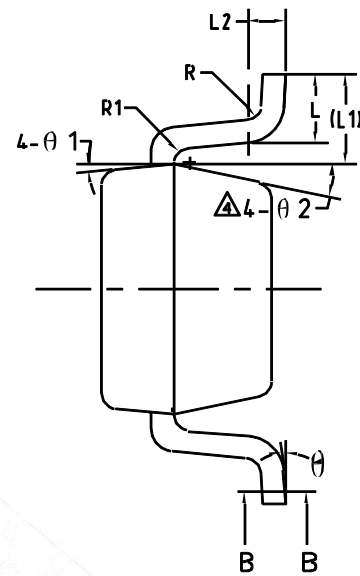
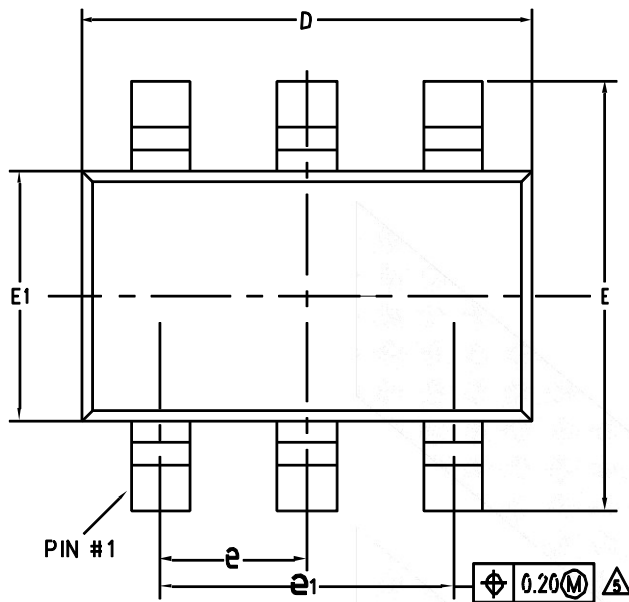
DIO7552/7553

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Ordering Information

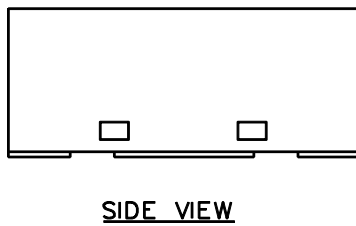
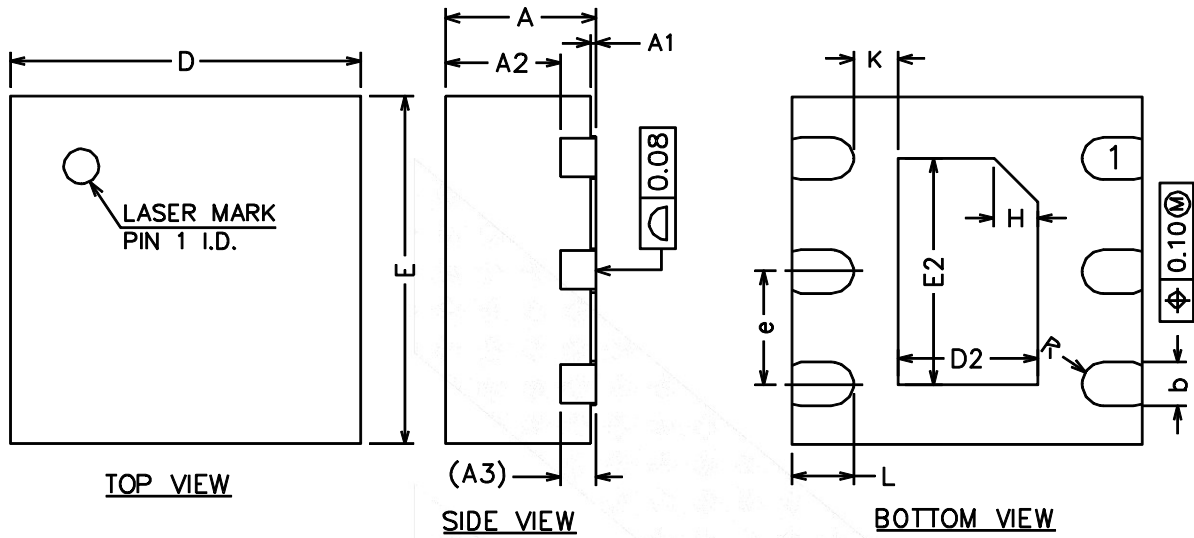
Order Part Number	Top Marking	Green	T _A	Package	
DIO7552ST6	YW52	Yes	-40 to +85°C	SOT23-6	Tape & Reel, 3000
DIO7553ST6	YW53	Yes	-40 to +85°C	SOT23-6	Tape & Reel, 3000
DIO7552DN6	D52	Yes	-40 to +85°C	DFN-6	Tape & Reel, 3000
DIO7553DN6	D53	Yes	-40 to +85°C	DFN-6	Tape & Reel, 3000

Physical Dimensions: SOT-23-6



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.25
A1	0	-	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	-	0.50
b1	0.36	0.38	0.45
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	0.20
θ	0°	-	8°
θ1	3°	5°	7°
θ2	6°	-	14°

Physical Dimensions: DFN2*2-6



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
A2	0.60	0.65	0.70
A3	0.20REF		
b	0.18	0.25	0.30
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.70	0.80	0.90
E2	1.20	1.30	1.40
e	0.55	0.65	0.75
H	0.25REF		
K	0.20	-	-
L	0.30	0.35	0.40
R	0.11	-	-

CONTACT US

Dioo is a professional design and sales corporation for high-quality and performance analog semiconductors. The company focuses on industry markets, such as, cell phone, handheld products, laptop, and medical equipment and so on. Dioo's product families include analog signal processing and amplifying, LED drivers and charger IC. Go to <http://www.dioo.com> for a complete list of Dioo product families.

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DIOO:

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