

Descriptions

The DW8525 consists of step-down switching regulator. DW8525 provides low-ripple power, high efficiency, and excellent transient characteristics. It achieves 1A continuous output current.

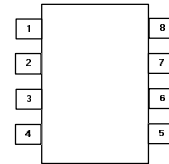
Ordering Information

Device	Marking	Package	Operating Temp
DW8525	DW8525	8-SOIC	-35°C ~ +85°C

Features

- 6V to 35V supply voltage.
- 1.0A Output Current
- Internal High-Side Switch
- Fixed 300kHz internal Oscillator
- Thermal Shutdown and Short-Circuit Protection
- 8-SOIC package.

Package Information

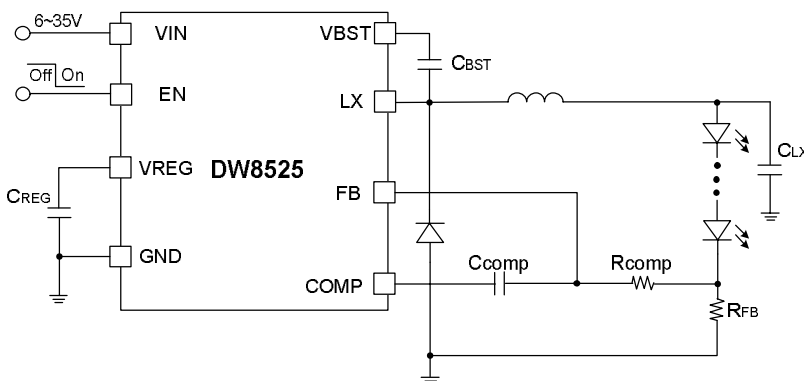


Package	Size
8-SOIC	4.9 x 6.0 x 1.4 (mm)

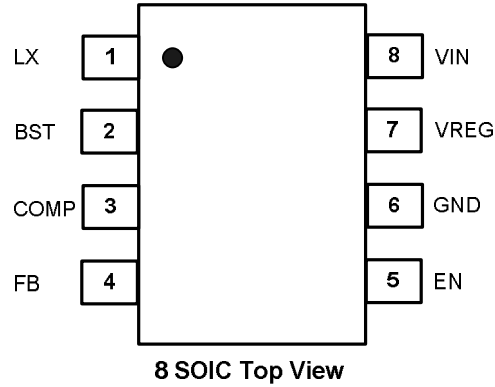
Applications

- LED Backlight and High Power LED Application.
- Architecture Detail lighting.
- Constant Current Source.
- Hand-held lighting.

Typical Application Circuit



Pin Connection



Pin Description

Pin No.	Symbol	I/O	Description
1	LX	-	Switch Pin. Connect external inductor/Diode Here
2	BST	-	Floating supply voltage for the high side driver
3	COMP	-	Compensation Pin
4	FB	-	Feedback Pin
5	EN	I	Chip Enable/disable, When EN is Low, IC operates.
6	GND	-	Ground
7	VREG	O	Regulator output
8	VIN	-	Power supply

Absolute Maximum Ratings

Characteristics	Symbol	Value	Unit
Supply Voltage	V_{IN}	35	V
EN Voltage	V_{EN}	6	V
Package Thermal Resistance ⁽¹⁾	θ_{JA}	73.84	°C/W
Operating Temperature	T_{OPR}	-35 to +85	°C
Storage Temperature	T_{STG}	-55 to +150	°C

- Note** 1. θ_{ja} is measured in the convection at $T_a=30^\circ\text{C}$ on a high effective thermal conductivity test board(4 Layers, 2S2P) of JEDEC 51-7 thermal measurement standard.
2. PCB dimension is 100x100x1.6mm and 4 layers.

Recommended Operation Conditions

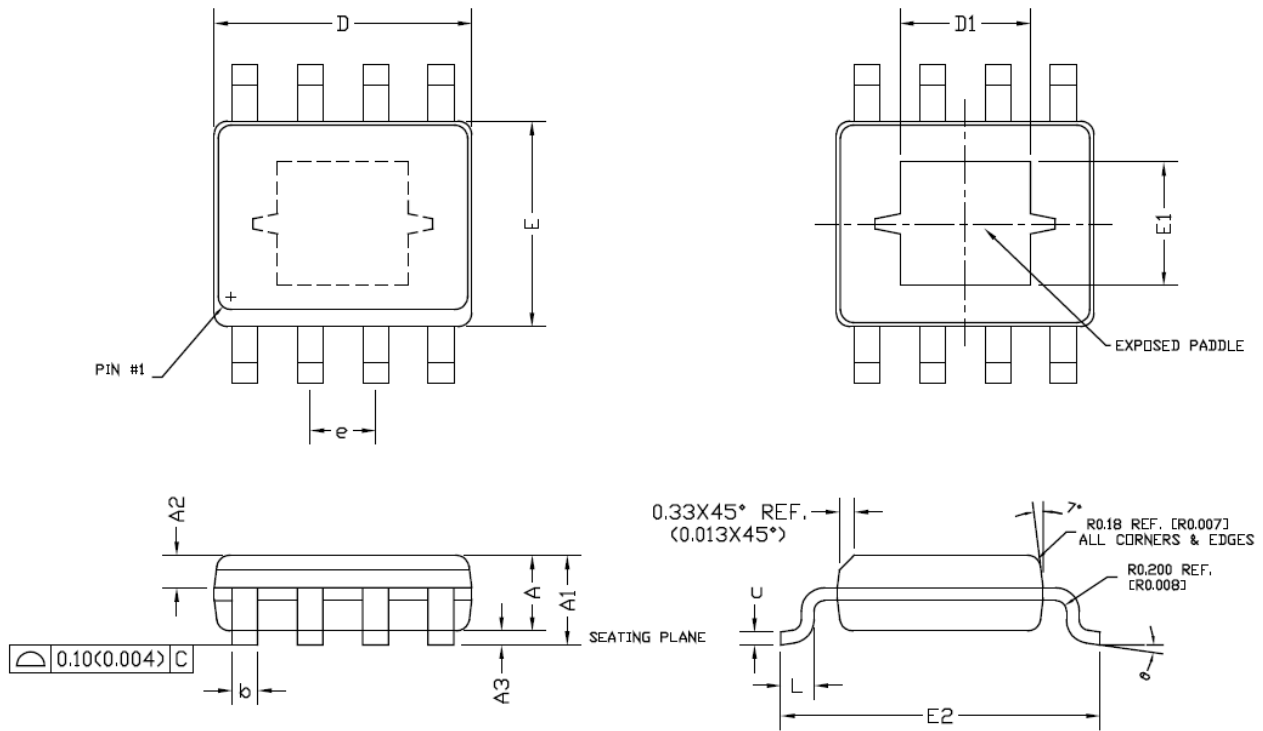
Characteristics	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V_{in}	6	-	35	V

Electrical Characteristics

$T_A=+25^{\circ}\text{C}$, $V_{IN}=6\text{V}$ to 35V , Unless Otherwise Noted

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input Voltage Range	V_{IN}	6.0	-	35	V
Under Voltage Lockout Threshold	VUVLO	-	5.3	6	V
Under Voltage Lockout Hysteresis	VUVLO _{HYS}	-	500	-	mV
Regulator Output Voltage	V_{REG}	-	5.0	-	V
Thermal Shutdown Temperature (Low)	T_{SD_L}	-	125	-	$^{\circ}\text{C}$
Thermal Shutdown Temperature (High)	T_{SD_H}	-	140	-	$^{\circ}\text{C}$
Thermal Shutdown Hysteresis	T_{SD_HYS}	-	40	-	$^{\circ}\text{C}$
Feedback Voltage	V_{FB}	-	300	-	mV
Switching Frequency	F_{SW}	-	300	-	Khz
Switch Current Resistance	R_{ON_SW}	-	318	-	$\text{m}\Omega$
Switch Current limit	I_{LIMIT}	-	1.5	-	A
Quiescent Current (Enable)	I_Q	-	1.2	2.5	mA
Quiescent Current (Disable)	I_{SD}	-	60	100	μA
Enable Threshold Voltage	V_{IH}	1.8	-	-	V
Shutdown Threshold Voltage	V_{IL}	-	-	0.4	V
Switch Leakage	SW_{LKG}	-	1	-	μA

Package Dimension



SIDE VIEW

SYMBOL	COMMON					
	DIMENSIONS MILLIMETER			DIMENSIONS INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	1.473 REF.			0.058 REF.		
A1	1.473	1.523	1.573	0.058	0.060	0.062
A2	0.635 REF.			0.025 REF.		
A3	0.00	0.05	0.10	0.000	0.002	0.004
b	0.33	0.40	0.51	0.013	0.016	0.020
c	0.19	0.20	0.25	0.0070	0.008	0.010
D	4.80	4.90	5.00	0.189	1.93	0.196
E	3.80	3.90	4.00	0.149	0.153	0.157
E2	5.80	6.00	6.20	0.228	0.236	0.244
e	1.27 BSC.			0.050 BSC.		
L	0.400	0.835	1.27	0.014	0.033	0.050
∅	0°	4°	8°	0°	4°	8°

OPTION 1

	DIMENSIONS MILLIMETER	DIMENSIONS INCH
D1	2.54 TYP.	0.100 TYP.
E1	2.42 TYP.	0.095 TYP.

OPTION 2

	DIMENSIONS MILLIMETER	DIMENSIONS INCH
D1	3.20 TYP.	0.126 TYP.
E1	2.70 TYP.	0.106 TYP.

OPTION 3

	DIMENSIONS MILLIMETER	DIMENSIONS INCH
D1	2.30 TYP.	0.090 TYP.
E1	2.30 TYP.	0.090 TYP.