SGS L2605 L2685 L2610

LINEAR INTEGRATED CIRCUITS

PRELIMINARY DATA

POSITIVE VOLTAGE REGULATORS FOR AUTOMOTIVE

- OUTPUT VOLTAGE OF 5, 8.5 AND 10V
- OUTPUT CURRENT UP TO 500 mA
- NO EXTERNAL COMPONENTS
- LOW DROP-OUT VOLTAGE
- LOAD DUMP VOLTAGE SURGE PROTECTION
- REVERSE VOLTAGE PROTECTION
- SHORT CIRCUIT PROTECTION
- CURRENT LIMITING
- THERMAL SHUTDOWN

The L2600 series of three therminal positive regulators is specially designed to stabilize power supplies for car instrumentation in vehicles with 12V battery. They can supply an output current up to 500 mA.

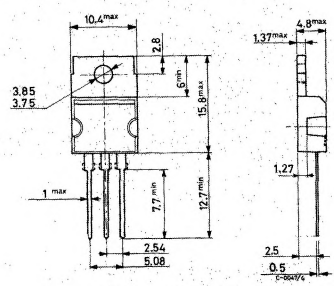
ABSOLUTE MAXIMUM RATINGS

V_i	DC input voltage	35	V
V_i	DC input reverse voltage	-28	V
V_d	Positive transient peak voltage (t = 40 ms, duty cycle = 1%)	120	V
V_d	Negative transient peak voltage (t = 30 ms, duty cycle = 1%)	-90	V
T_{op}	Operating temperature	-40 to 150	°C
T_{stg}	Storage temperature	-65 to 150	°C
P_{tot}	Power dissipation	Internally limited	

ORDERING NUMBERS: L2605V (V_o= 5V)
L2685V (V_o= 8.5V)
L2610V (V_o= 10V)

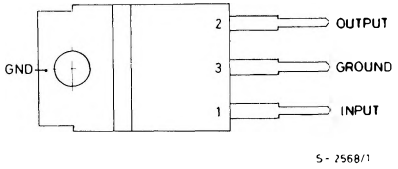
MECHANICAL DATA

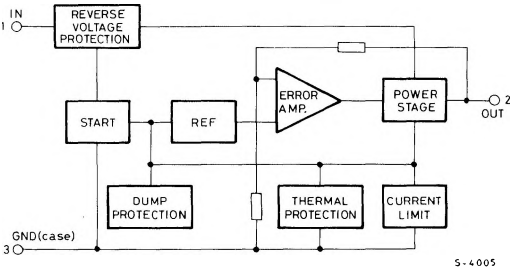
Dimensions in mm



CONNECTION AND BLOCK DIAGRAMS

(top view)





THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max.	4 °C/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°)

Parameter		Test conditions		Min.	Typ.	Max.	Unit
V_o	Output voltage	I_o = 500 mA	V_i = 12 to 16V (L2605) V_i = 12 to 16V (L2685) V_i = 12 to 16V (L2610)	4.8 8.15 9.55	5 8.5 10	5.2 8.85 10.45	V
V_i	Operating input voltage	see note (°)				28	V
ΔV_o	Line regulation	I_o = 50 mA	V_i = 12 to 16V		2		mV
$\frac{\Delta V_o}{V_o}$	Load regulation	V_i = 14V	I_o = 50 to 500 mA		0.3		%
$\Delta V_{i\text{-}o}$	Dropout voltage	I_o = 500 mA				1.8	V
$\frac{\Delta V_o}{\Delta T}$	Output voltage drift	I_o = 50mA T_{amb} = -12 to 80°C	V_i = 14V		-1		mV/°C
I_{sc}	Output short circuit current	V_i = 14V			900		mA
SVR	Supply voltage rejection	V_i = 16V f = 100Hz	ΔV_i = 2V I_o = 500mA		60		dB
R_o	Output resistance	I_o = 500mA			0.05		Ω
e_N	Output noise voltage	BW = 100Hz to 10KHz			20		μV

(°) Note: For a DC input voltage 28V < V_i < 35V the device is not operating