



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 thermal 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.

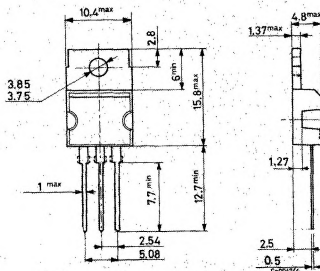
ABSOLUTE MAXIMUM RATINGS

V_i	DC input voltage	35	V
V_{iR}	DC input reverse voltage	-28	V
V_d	Positive transient peak voltage ($t = 40$ ms, duty cycle = 1%)	120	V
V_{dR}	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 ($V_o = 10V$)

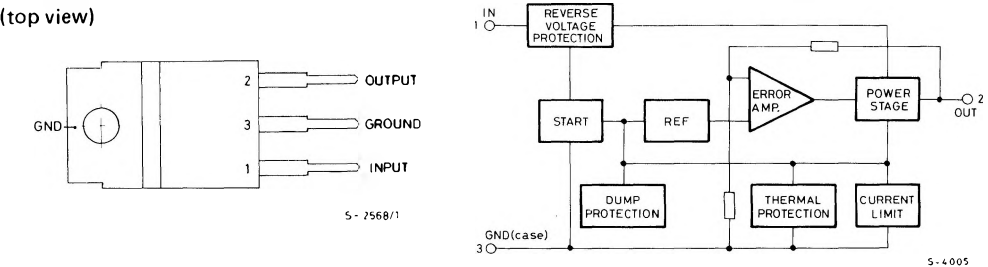
MECHANICAL DATA

Dimensions in mm



CONNECTION AND BLOCK DIAGRAMS

(top view)



THERMAL DATA

R _{thj-case}	Thermal resistance junction-case	max.	4 °C/W
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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
ΔV _O / V _O	Load regulation	V _i = 14V	I _O = 50 to 500 mA		0.3		%
ΔV _{i-o}	Dropout voltage	I _O = 500 mA				1.8	V
ΔV _O / ΔT	Output voltage drift	I _O = 50mA	V _i = 14V T _{amb} = -12 to 80° C		-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