



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.

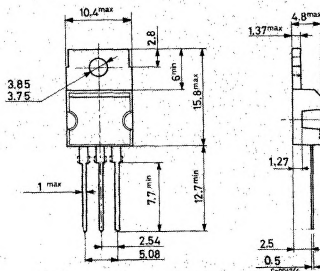
ABSOLUTE MAXIMUM RATINGS

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 ($V_o = 10V$)

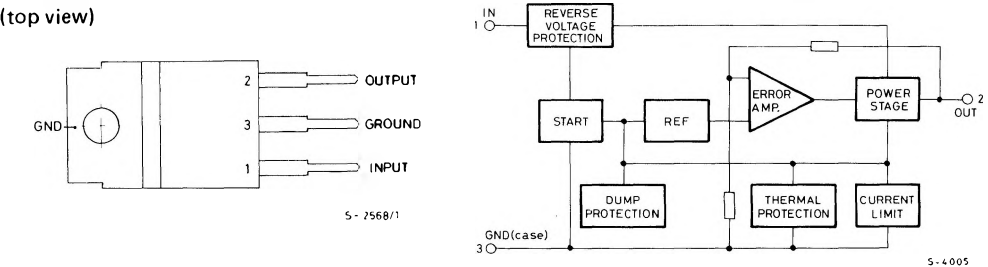
MECHANICAL DATA

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 ($T_{amb} = 25^{\circ}$)

Parameter	Test conditions		Min.	Typ.	Max.	Unit
V_o Output voltage	$I_o = 500\text{ mA}$	$V_i = 12\text{ to }16\text{ V (L2605)}$ $V_i = 12\text{ to }16\text{ V (L2685)}$ $V_i = 12\text{ to }16\text{ V (L2610)}$	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	$I_o = 50\text{ mA}$	$V_i = 12\text{ to }16\text{ V}$		2		mV
$\frac{\Delta V_o}{V_o}$ Load regulation	$V_i = 14\text{ V}$	$I_o = 50\text{ to }500\text{ mA}$		0.3		%
ΔV_{i-o} Dropout voltage	$I_o = 500\text{ mA}$				1.8	V
$\frac{\Delta V_o}{\Delta T}$ Output voltage drift	$I_o = 50\text{ mA}$	$V_i = 14\text{ V}$ $T_{amb} = -12\text{ to }80^{\circ}\text{ C}$		-1		mV/°C
I_{sc} Output short circuit current	$V_i = 14\text{ V}$			900		mA
SVR Supply voltage rejection	$V_i = 16\text{ V}$ $f = 100\text{ Hz}$	$\Delta V_i = 2\text{ V}$ $I_o = 500\text{ mA}$		60		dB
R_o Output resistance	$I_o = 500\text{ mA}$			0.05		Ω
e_N Output noise voltage	$BW = 100\text{ Hz to }10\text{ KHz}$			20		$\mu\text{ V}$

(*) Note: For a DC input voltage $28\text{ V} < V_i < 35\text{ V}$ the device is not operating