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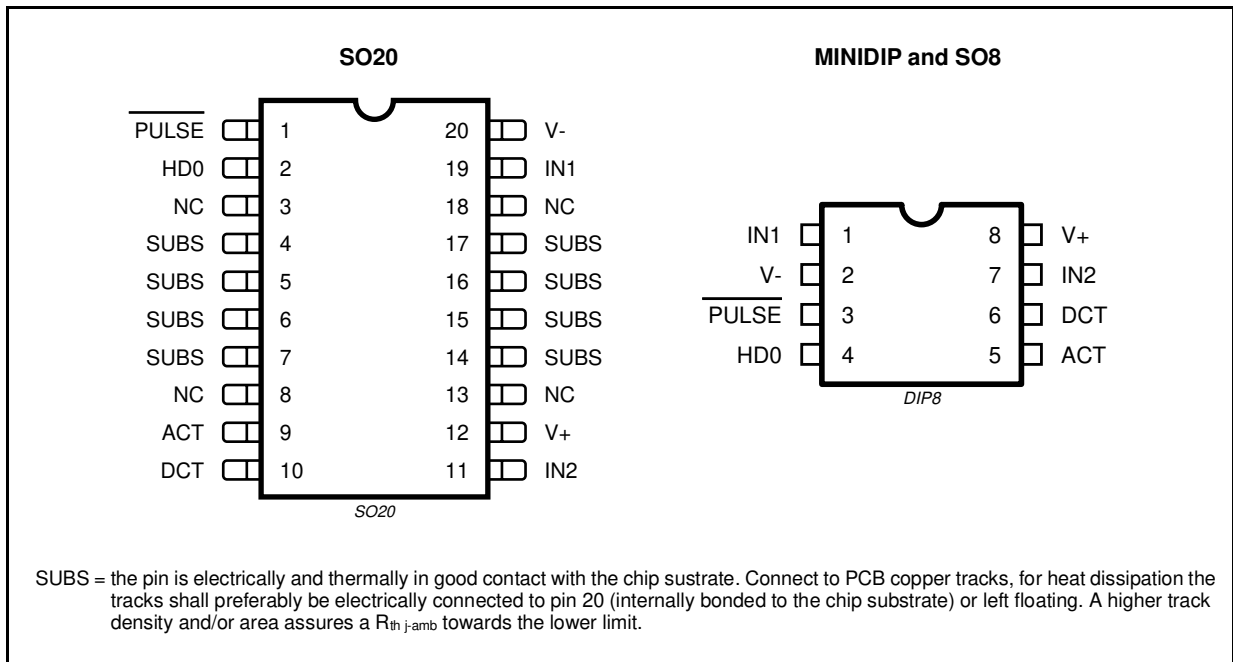




**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_L$	Max Line Voltage (pulse duration 10 ms max)	20	V
$I_L$	Max Line Current	150	mA
$P_{tot}$	Total Power Dissipation at $T_{amb} = 70\text{ }^\circ\text{C}$	800	mW
$T_{op}$	Operating Temperature	- 40 to + 70	$^\circ\text{C}$
$T_{srg}, T_j$	Storage and Junction Temperature	- 55 to + 150	$^\circ\text{C}$

**PIN CONNECTION (Top view)**



**THERMAL DATA**

Symbol	Parameter	Minidip	SO8	SO20	Unit
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient (*)	Max. 80	140 to 180	50 to 70	$^\circ\text{C}/\text{W}$

(\*) Mounted on FR4 Boards

**DC ELECTRICAL CHARACTERISTICS** ( $I_L = 10 \text{ mA}$  to  $100 \text{ mA}$ ,  $R_1 = 56 \Omega$ ,  $S_1 = \text{Open}$ ,  $T_{\text{amb}} = + 25 \text{ }^\circ\text{C}$ , unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$V_L$	Line Voltage (normal mode)	PULSE = Open $I_L = 10 \text{ mA}$ $I_L = 20 \text{ mA}$ $I_L = 100 \text{ mA}$			5 6 12	V V V
$V_{LP}$	Line Voltage (pulse mode)	PULSE = $V^-$ $I_L = 20 \text{ mA}$ $I_L = 35 \text{ mA}$ $I_L = 80 \text{ mA}$			4 5.5 9.5	V V V
$I_{hn}$	ON/OFF-Hook Line Current Detection Threshold		6.5		9.5	mA
$I_{hf}$	OFF/ON-Hook Line Current Detection Threshold		5		9.2	mA
$I_{OUT}$	OFF-Hook Output Drive Current at Pin HDO	$I_L = 10 \text{ mA}$ $I_L \geq 20 \text{ mA}$	1.5 1.8			mA mA
$V_{PM}$	Pulse Input Low Voltage				0.8	V
$I_{PM}$	Pull-up Input Current at Pin PULSE (pulse mode)	$I_L = 100 \text{ mA}$ Pulse = $V^-$			20	$\mu\text{A}$
$I_{NM}$	Input Current at Pin Pulse (normal mode)				3	$\mu\text{A}$

**AC ELECTRICAL CHARACTERISTICS** ( $I_L = 10\text{mA}$  to  $100\text{mA}$ ,  $R_1 = 56\Omega$ ,  $R_2 = 470\text{K}\Omega$ ,  $R_3 = 130 \text{ K}\Omega$ ,  $T_{\text{amb}} = + 25 \text{ }^\circ\text{C}$ , unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$Z_L$	AC Line Impedance	$S_1 = \text{Open}$ , $S_2 = \text{Open}$ $C_1 = 2.2\text{mF}$ $f = 1\text{KHz}$		20		$\text{K}\Omega$
	Sending/Receiving Distortion	$S_1 = \text{Open}$ , $S_2 = \text{Open}$ $f = 1\text{KHz}$ $V_{AC-L} = 775\text{mVrms}$ $I_L = 15 \text{ to } 100\text{mA}$			2	%
	Sending/Receiving Distortion	$S_1 = \text{Closed}$ ; $S_2 = \text{Open}$ $V_{AC-L} = 1.3\text{Vrms}$		2		%
	Sending/Receiving Distortion	$S_1 = \text{Open}$ ; $S_2 = \text{Closed}$ $V_{AC-L} = 1.9\text{Vrms}$		2(*)		%

(\*) Not tested, guaranteed only by design.

### APPLICATION INFORMATION

With the use of this circuit it is possible to terminate an analog trunk so that all the DC current component is flowing in the TRUNK TERMINATION CIRCUIT while the AC component is decoupled with a low voltage capacitor and can be used with a small and low cost audio coupler transformer to provide the AC balancing termination and two to four wire conversion.

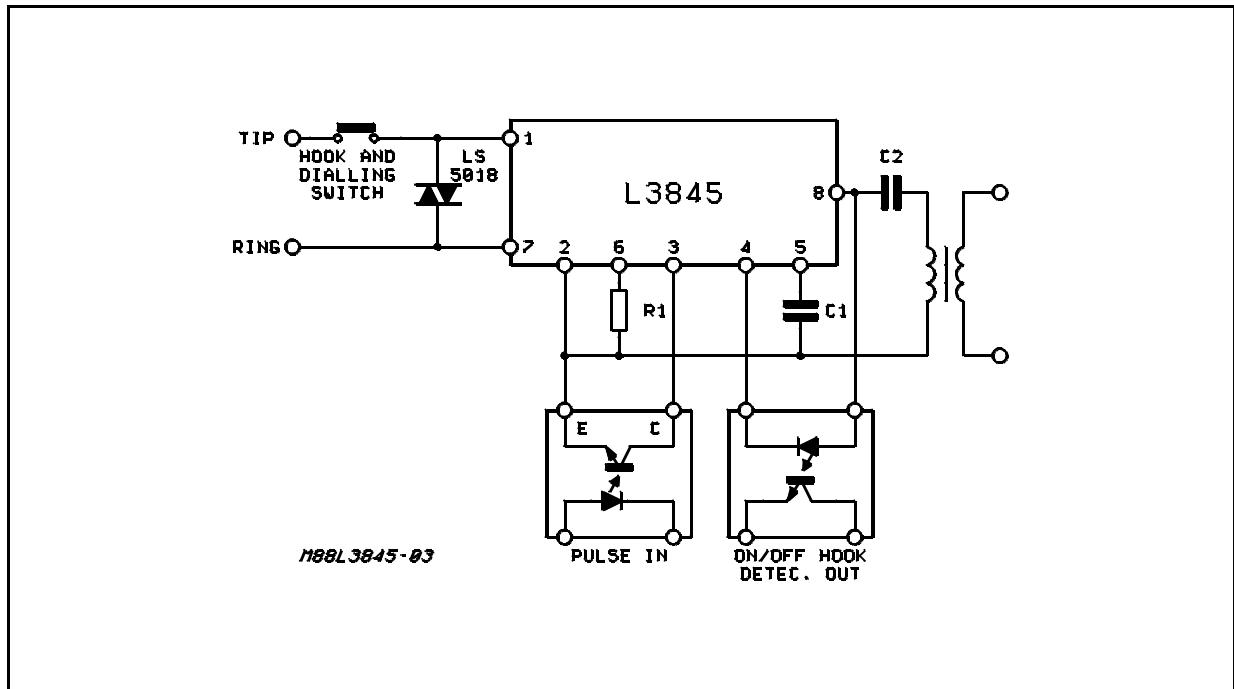
Therefore it is useful both for MODEM and PABX systems.

Figure 1 gives the typical application circuit ; it is worth to note that the TRUNK TERMINATION CIRCUIT, together with the LS5018 transient suppressor provides a compact and low cost module fully protected against lightning or overvoltages frequently present on telephone lines.

The PULSE input when connected to  $V^-$  allows the device to reduce the Line Voltage and to show a resistive impedance equal to  $R_1$  to the line. When PULSE input is left open, this function is disable.

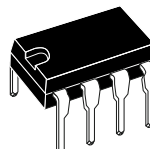
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Figure 1: Typical Application.

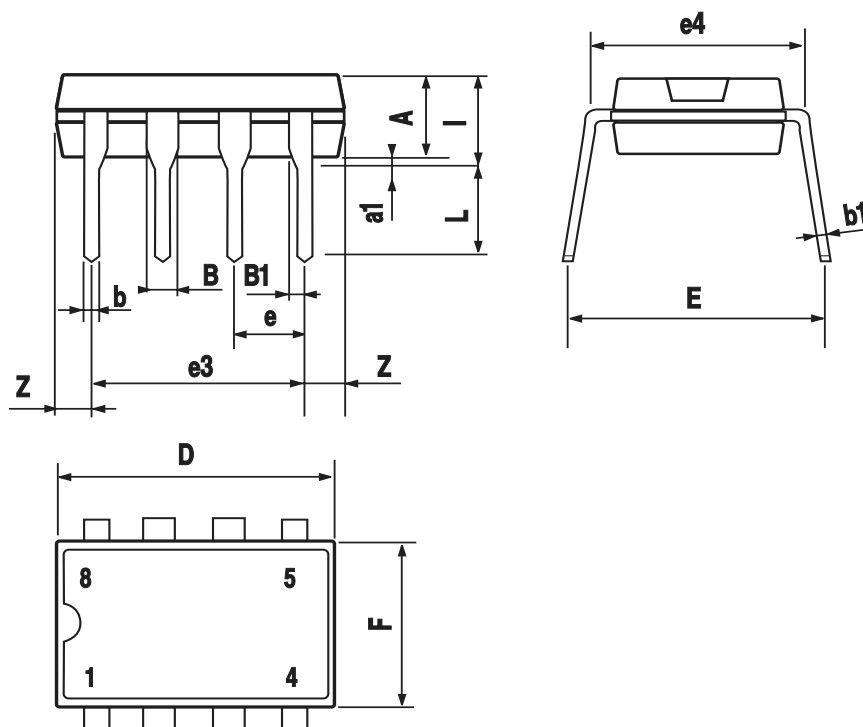


DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
I			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

## OUTLINE AND MECHANICAL DATA

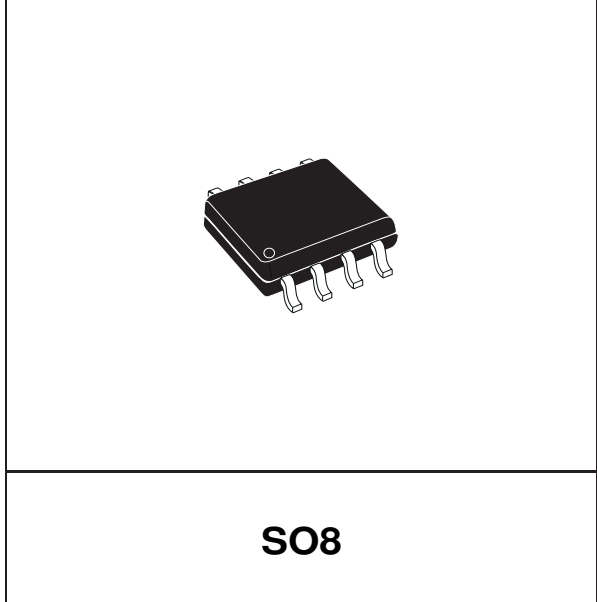


## Minidip

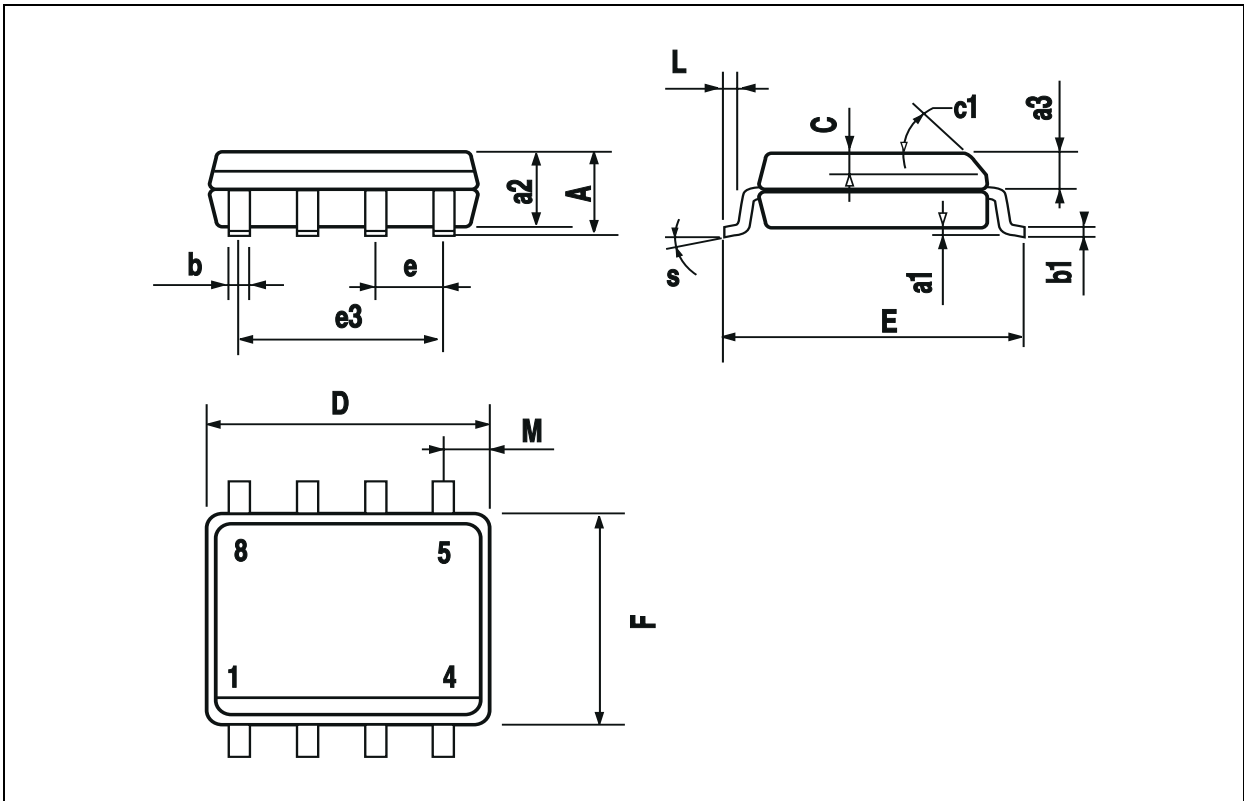


DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ.)					
D (1)	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F (1)	3.8		4.0	0.15		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max.)					

**OUTLINE AND MECHANICAL DATA**

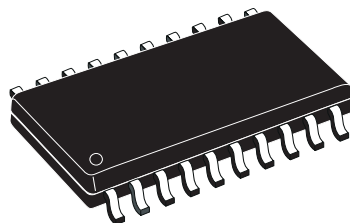


(1) D and F do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15mm (.006inch).

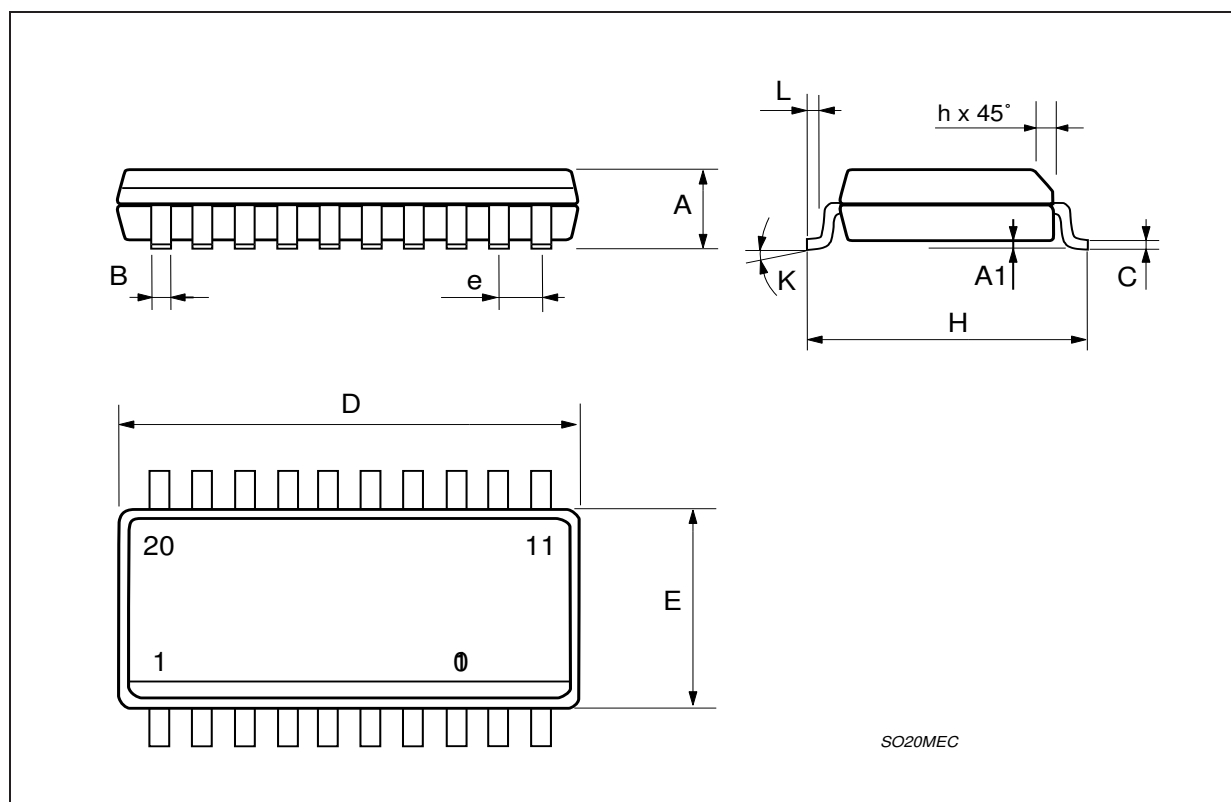


DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.35		2.65	0.093		0.104
A1	0.1		0.3	0.004		0.012
B	0.33		0.51	0.013		0.020
C	0.23		0.32	0.009		0.013
D	12.6		13	0.496		0.512
E	7.4		7.6	0.291		0.299
e		1.27			0.050	
H	10		10.65	0.394		0.419
h	0.25		0.75	0.010		0.030
L	0.4		1.27	0.016		0.050
K	0° (min.)8° (max.)					

### OUTLINE AND MECHANICAL DATA



**SO20**





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