



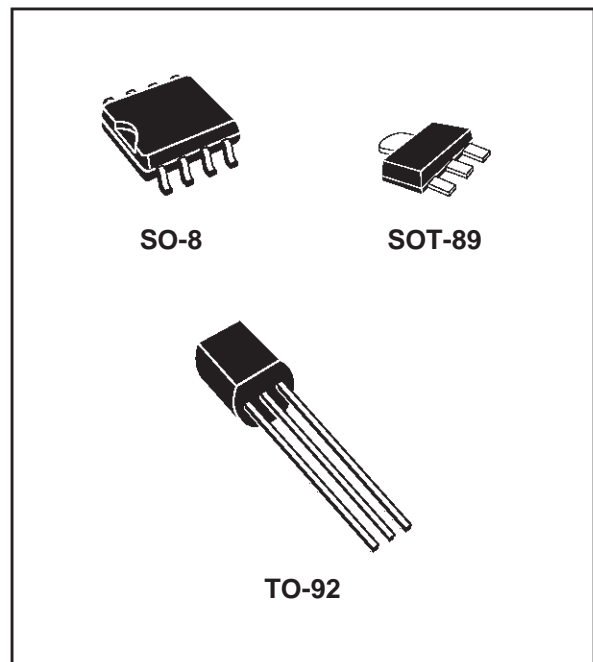
## NEGATIVE VOLTAGE REGULATORS

- OUTPUT CURRENT UP TO 100 mA
- OUTPUT VOLTAGES OF -5; -6; -8; -9; -12; -15V
- THERMAL OVERLOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- NO EXTERNAL COMPONENTS ARE REQUIRED
- AVAILABLE IN EITHER  $\pm 5\%$  (AC) OR  $\pm 10\%$  (C) SELECTION

### DESCRIPTION

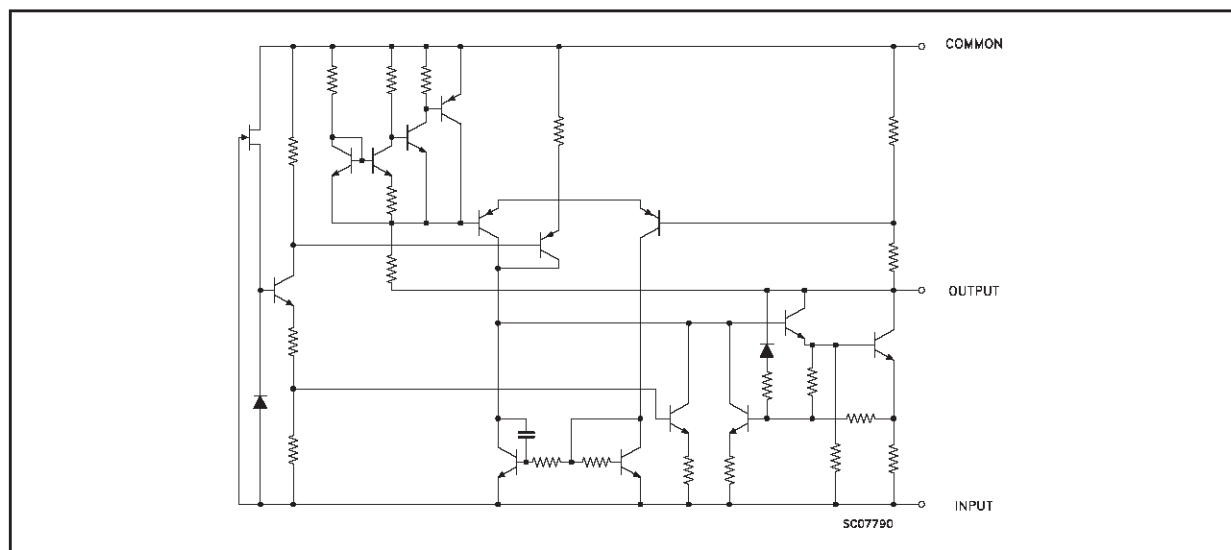
The L79L00 series of three-terminal positive regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. If adequate heatsink is provided, they can deliver up to 100 mA output current. They are intended as fixed voltage regulators in a wide range of applications including local or on-card regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used with power pass elements to make high-current voltage regulators.

The L79L00 series used as Zener diode/resistor combination replacement, offers an effective



output impedance improvement of typically two orders of magnitude, along with lower quiescent current and lower noise.

### BLOCK DIAGRAM



# L79L00

## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit	
$V_i$	DC Input Voltage	$V_o = -5\text{ V to }-9\text{ V}$	-30	V
		$V_o = -12\text{ V to }-15\text{ V}$	-35	V
$I_o$	Output Current	100	mA	
$P_{tot}$	Power Dissipation	Internally limited (*)		
$T_{stg}$	Storage Temperature Range	- 40 to 150	°C	
$T_{op}$	Operating Junction Temperature Range For L79L00C, L79L00AC For L79L00AB	0 to 125	°C	
		- 40 to 125	°C	

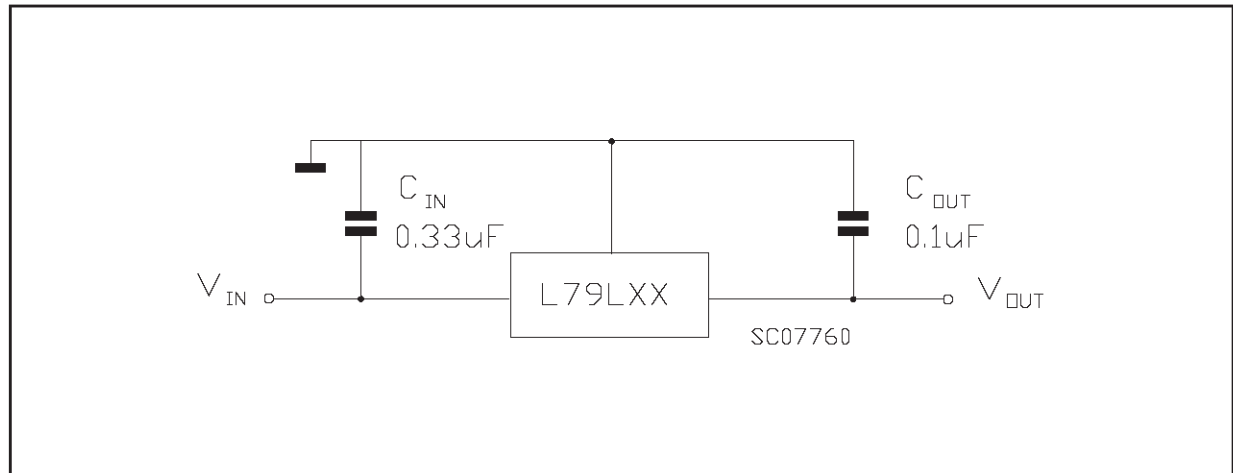
(\*) Our SO-8 package used for Voltage Regulators is modified internally to have pins 2, 3, 6 and 7 electrically commoned to the die attach flag. This particular frame decreases the total thermal resistance of the package and increases its ability to dissipate power when an appropriate area of copper on the printed circuit board is available for heatsinking. The external dimensions are the same as for the standard SO-8

## THERMAL DATA

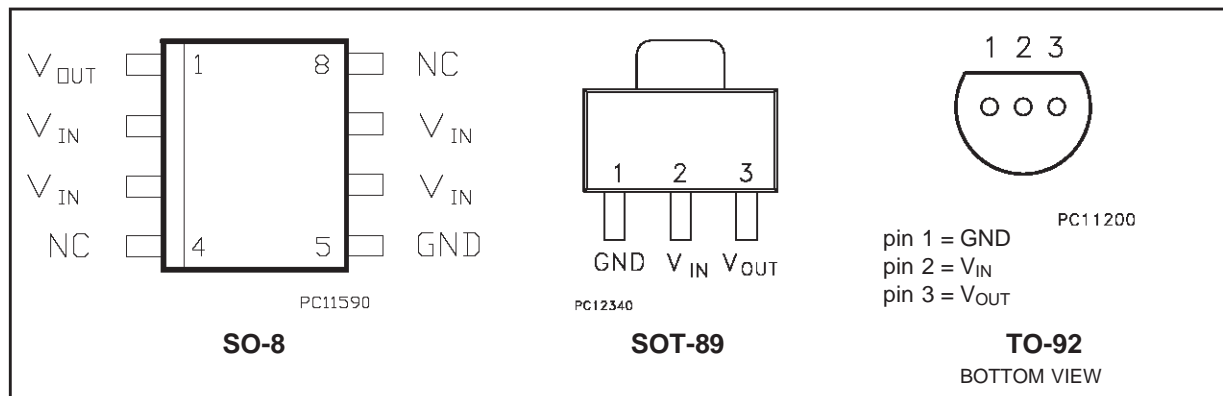
Symbol	Parameter		SO-8	TO-92	SOT-89	Unit
$R_{thj-case}$	Thermal Resistance Junction-case	Max	20		15	°C/W
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	55 (*)	200		°C/W

(\*) Considering 6cm<sup>2</sup> of copper Board heat-sink

## TEST CIRCUITS



**CONNECTION DIAGRAM AND ORDERING NUMBERS (top view)**



**ORDERING NUMBERS**

Type	SO-8	TO-92	SOT-89	Output Voltage
L79L05C	L79L05CD	L79L05CZ		-5 V
L79L05AC	L79L05ACD	L79L05ACZ	L79L05ACU	-5 V
L79L05AB	L79L05ABD	L79L05ABZ	L79L05ABU	-5 V
L79L06C	L79L06CD	L79L06CZ		-6 V
L79L06AC	L79L06ACD	L79L06ACZ	L79L06ACU	-6 V
L79L06AB	L79L06ABD	L79L06ABZ	L79L06ABU	-6 V
L79L08C	L79L08CD	L79L08CZ		-8 V
L79L08AC	L79L08ACD	L79L08ACZ	L79L08ACU	-8 V
L79L08AB	L79L08ABD	L79L08ABZ	L79L08ABU	-8 V
L79L09C	L79L09CD	L79L09CZ		-9 V
L79L09AC	L79L09ACD	L79L09ACZ	L79L09ACU	-9 V
L79L09AB	L79L09ABD	L79L09ABZ	L79L09ABU	-9 V
L79L12C	L79L12CD	L79L12CZ		-12 V
L79L12AC	L79L12ACD	L79L12ACZ	L79L12ACU	-12 V
L79L12AB	L79L12ABD	L79L12ABZ	L79L12ABU	-12 V
L79L15C	L79L15CD	L79L15CZ		-15 V
L79L15AC	L79L15ACD	L79L15ACZ		-15 V
L79L15AB	L79L15ABD	L79L15ABZ		-15 V

**ELECTRICAL CHARACTERISTICS FOR L79L05** (refer to the test circuits,  $T_j = 0$  to  $125\text{ }^\circ\text{C}$ ,  
 $V_i = -10\text{V}$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-4.6	-5	-5.4	V
$V_o$	Output Voltage	$I_o = 1$ to $40\text{ mA}$ $V_i = -7$ to $-20\text{ V}$ $I_o = 1$ to $70\text{ mA}$ $V_i = -10\text{ V}$	-4.5 -4.5		-5.5 -5.5	V V
$\Delta V_o$	Line Regulation	$V_i = -7$ to $-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -8$ to $-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			200 150	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1$ to $40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			60 30	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40\text{ mA}$			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -8$ to $-20\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz}$ to $100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		40		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -8$ to $-18\text{ V}$	40	49		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L06** (refer to the test circuits,  $T_j = 0$  to  $125\text{ }^\circ\text{C}$ ,  
 $V_i = -12\text{V}$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-5.52	-6	-6.48	V
$V_o$	Output Voltage	$I_o = 1$ to $40\text{ mA}$ $V_i = -8.5$ to $-20\text{ V}$ $I_o = 1$ to $70\text{ mA}$ $V_i = -12\text{ V}$	-5.4 -5.4		-6.6 -6.6	V V
$\Delta V_o$	Line Regulation	$V_i = -8.5$ to $-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -9$ to $-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			200 150	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1$ to $40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			60 30	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40\text{ mA}$			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -8$ to $-20\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz}$ to $100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		50		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -9$ to $-20\text{ V}$	38	46		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L08** (refer to the test circuits,  $T_j = 0$  to  $125\text{ }^\circ\text{C}$ ,  
 $V_i = -14\text{V}$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-7.36	-8	-8.64	V
$V_o$	Output Voltage	$I_o = 1$ to $40\text{ mA}$ $V_i = -10.5$ to $-23\text{ V}$ $I_o = 1$ to $70\text{ mA}$ $V_i = -14\text{ V}$	-7.2 -7.2		-8.8 -8.8	V V
$\Delta V_o$	Line Regulation	$V_i = -10.5$ to $-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -11$ to $-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			200 150	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1$ to $40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			80 40	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40\text{ mA}$			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -11$ to $-23\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz}$ to $100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		60		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12$ to $-23\text{ V}$	36	45		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L09** (refer to the test circuits,  $T_j = 0$  to  $125\text{ }^\circ\text{C}$ ,  
 $V_i = -15\text{V}$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-8.28	-9	-9.72	V
$V_o$	Output Voltage	$I_o = 1$ to $40\text{ mA}$ $V_i = -11.5$ to $-23\text{ V}$ $I_o = 1$ to $70\text{ mA}$ $V_i = -15\text{ V}$	-8.1 -8.1		-9.9 -9.9	V V
$\Delta V_o$	Line Regulation	$V_i = -11.5$ to $-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12$ to $-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			250 200	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1$ to $40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			80 40	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40\text{ mA}$			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -12$ to $-23\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz}$ to $100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		70		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12$ to $-23\text{ V}$	36	44		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L12** (refer to the test circuits,  $T_j = 0$  to  $125$  °C,  $V_i = -19V$ ,  $I_o = 40$  mA,  $C_i = 0.33$   $\mu$ F,  $C_o = 0.1$   $\mu$ F unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25$ °C	-11.1	-12	-12.9	V
$V_o$	Output Voltage	$I_o = 1$ to $40$ mA $V_i = -14.5$ to $-27$ V $I_o = 1$ to $70$ mA $V_i = -19$ V	-10.8 -10.8		-13.2 -13.2	V V
$\Delta V_o$	Line Regulation	$V_i = -14.5$ to $-27$ V $T_j = 25$ °C $V_i = -16$ to $-27$ V $T_j = 25$ °C			250 200	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100$ mA $T_j = 25$ °C $I_o = 1$ to $40$ mA $T_j = 25$ °C			100 50	mV mV
$I_d$	Quiescent Current	$T_j = 25$ °C $T_j = 125$ °C			6.5 6	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40$ mA			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -16$ to $-27$ V			1.5	mA
eN	Output Noise Voltage	$B = 10$ Hz to $100$ KHz $T_j = 25$ °C		80		$\mu$ V
SVR	Supply Voltage Rejection	$I_o = 40$ mA $f = 120$ Hz $T_j = 25$ °C $V_i = -15$ to $-25$ V	36	42		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L15** (refer to the test circuits,  $T_j = 0$  to  $125$  °C,  $V_i = -23V$ ,  $I_o = 40$  mA,  $C_i = 0.33$   $\mu$ F,  $C_o = 0.1$   $\mu$ F unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25$ °C	-13.8	-15	-16.2	V
$V_o$	Output Voltage	$I_o = 1$ to $40$ mA $V_i = -17.5$ to $-30$ V $I_o = 1$ to $70$ mA $V_i = -23$ V	-13.5 -13.5		-16.5 -16.5	V V
$\Delta V_o$	Line Regulation	$V_i = -17.5$ to $-30$ V $T_j = 25$ °C $V_i = -20$ to $-30$ V $T_j = 25$ °C			300 250	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1$ to $100$ mA $T_j = 25$ °C $I_o = 1$ to $40$ mA $T_j = 25$ °C			150 75	mV mV
$I_d$	Quiescent Current	$T_j = 25$ °C $T_j = 125$ °C			6.5 6	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1$ to $40$ mA			0.2	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -20$ to $-30$ V			1.5	mA
eN	Output Noise Voltage	$B = 10$ Hz to $100$ KHz $T_j = 25$ °C		90		$\mu$ V
SVR	Supply Voltage Rejection	$I_o = 40$ mA $f = 120$ Hz $T_j = 25$ °C $V_i = -18.5$ to $-28.5$ V	33	39		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L05AB AND L79L05AC**(refer to the test circuits,  $V_i = -10V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L05AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L05AB, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-4.8	-5	-5.2	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -7\text{ to }-20\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -10\text{ V}$	-4.75 -4.75		-5.25 -5.25	V V
$\Delta V_o$	Line Regulation	$V_i = -7\text{ to }-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -8\text{ to }-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			150 100	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			60 30	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -8\text{ to }-20\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		40		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -8\text{ to }-18\text{ V}$	41	49		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L06AB AND L79L06AC**(refer to the test circuits,  $V_i = -12V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L06AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L06AB, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-5.76	-6	-6.24	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -8.5\text{ to }-20\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -12\text{ V}$	-5.7 -5.7		-6.3 -6.3	V V
$\Delta V_o$	Line Regulation	$V_i = -8.5\text{ to }-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -9\text{ to }-20\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			150 100	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			60 30	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -9\text{ to }-20\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		50		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -9\text{ to }-20\text{ V}$	39	46		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L08AB AND L79L08AC**(refer to the test circuits,  $V_i = -14V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L08AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L08AB, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-7.68	-8	-8.32	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -10.5\text{ to }-23\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -14\text{ V}$	-7.6 -7.6		-8.4 -8.4	V V
$\Delta V_o$	Line Regulation	$V_i = -10.5\text{ to }-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -11\text{ to }-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			175 125	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			80 40	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -11\text{ to }-23\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_j = 25\text{ }^\circ\text{C}$		60		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12\text{ to }-23\text{ V}$	37	45		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L09AB AND L79L09AC**(refer to the test circuits,  $V_i = -15V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L09AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L09AB, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-8.64	-9	-9.36	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -11.5\text{ to }-23\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -15\text{ V}$	-8.55 -8.55		-9.45 -9.45	V V
$\Delta V_o$	Line Regulation	$V_i = -11.5\text{ to }-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12\text{ to }-23\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			225 150	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			80 40	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6 5.5	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -12\text{ to }-23\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_j = 25\text{ }^\circ\text{C}$		70		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -12\text{ to }-23\text{ V}$	37	44		dB
$V_d$	Dropout Voltage			1.7		V



**ELECTRICAL CHARACTERISTICS FOR L79L12AB AND L79L12AC**(refer to the test circuits,  $V_i = -19V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L12AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L12AB, unless otherwise specified)

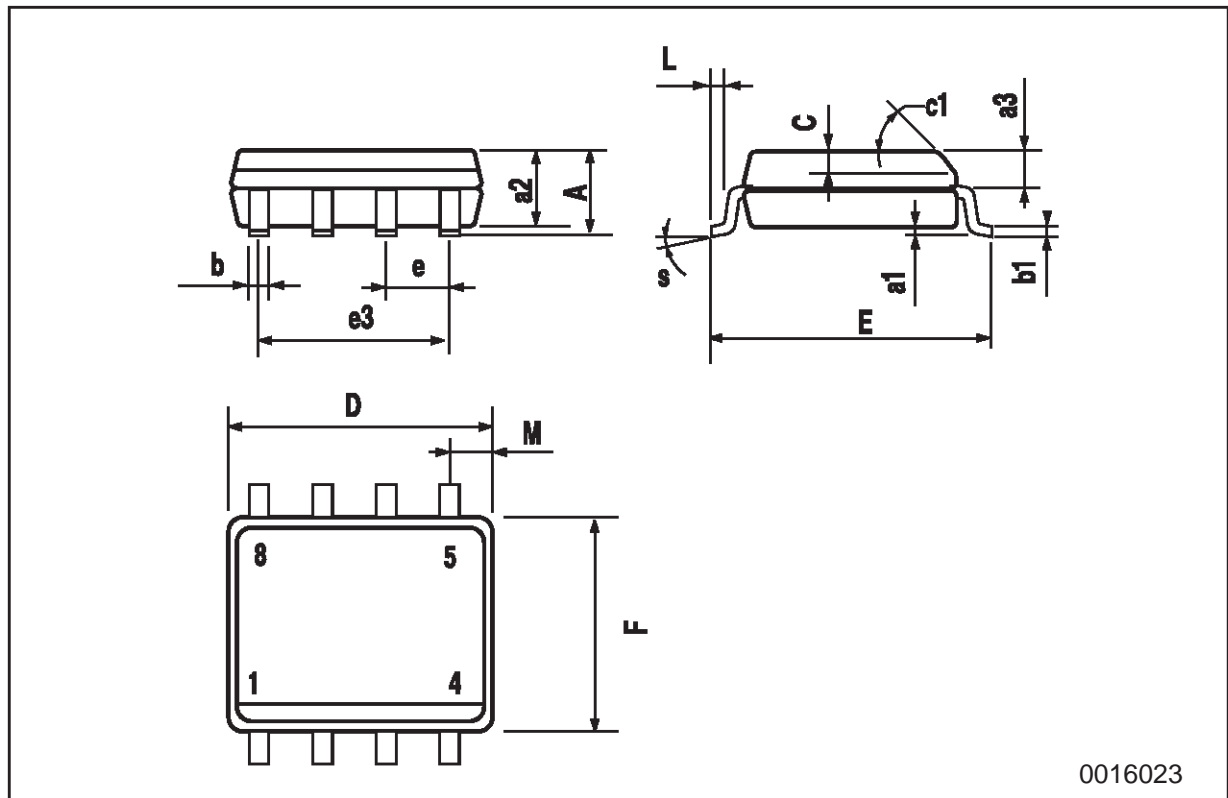
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-11.5	-12	-12.5	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -14.5\text{ to }-27\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -19\text{ V}$	-11.4 -11.4		-12.6 -12.6	V V
$\Delta V_o$	Line Regulation	$V_i = -14.5\text{ to }-27\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -16\text{ to }-27\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			250 200	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			100 50	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6.5 6	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -16\text{ to }-27\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		80		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -15\text{ to }-25\text{ V}$	37	42		dB
$V_d$	Dropout Voltage			1.7		V

**ELECTRICAL CHARACTERISTICS FOR L79L15AB AND L79L15AC**(refer to the test circuits,  $V_i = -23V$ ,  $I_o = 40\text{ mA}$ ,  $C_i = 0.33\text{ }\mu\text{F}$ ,  $C_o = 0.1\text{ }\mu\text{F}$ , $T_j = 0\text{ to }125\text{ }^\circ\text{C}$  for L79L15AC,  $T_j = -40\text{ to }125\text{ }^\circ\text{C}$  for L79L15AB, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_o$	Output Voltage	$T_j = 25\text{ }^\circ\text{C}$	-14.4	-15	-15.6	V
$V_o$	Output Voltage	$I_o = 1\text{ to }40\text{ mA}$ $V_i = -17.5\text{ to }-30\text{ V}$ $I_o = 1\text{ to }70\text{ mA}$ $V_i = -23\text{ V}$	-14.25 -14.25		-15.75 -15.75	V V
$\Delta V_o$	Line Regulation	$V_i = -17.5\text{ to }-30\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -20\text{ to }-30\text{ V}$ $T_j = 25\text{ }^\circ\text{C}$			300 250	mV mV
$\Delta V_o$	Load Regulation	$I_o = 1\text{ to }100\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$ $I_o = 1\text{ to }40\text{ mA}$ $T_j = 25\text{ }^\circ\text{C}$			150 75	mV mV
$I_d$	Quiescent Current	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$			6.5 6	mA mA
$\Delta I_d$	Quiescent Current Change	$I_o = 1\text{ to }40\text{ mA}$			0.1	mA
$\Delta I_d$	Quiescent Current Change	$V_i = -20\text{ to }-30\text{ V}$			1.5	mA
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_j = 25\text{ }^\circ\text{C}$		90		$\mu\text{V}$
SVR	Supply Voltage Rejection	$I_o = 40\text{ mA}$ $f = 120\text{ Hz}$ $T_j = 25\text{ }^\circ\text{C}$ $V_i = -18.5\text{ to }-28.5\text{ V}$	34	39		dB
$V_d$	Dropout Voltage			1.7		V

## SO-8 MECHANICAL DATA

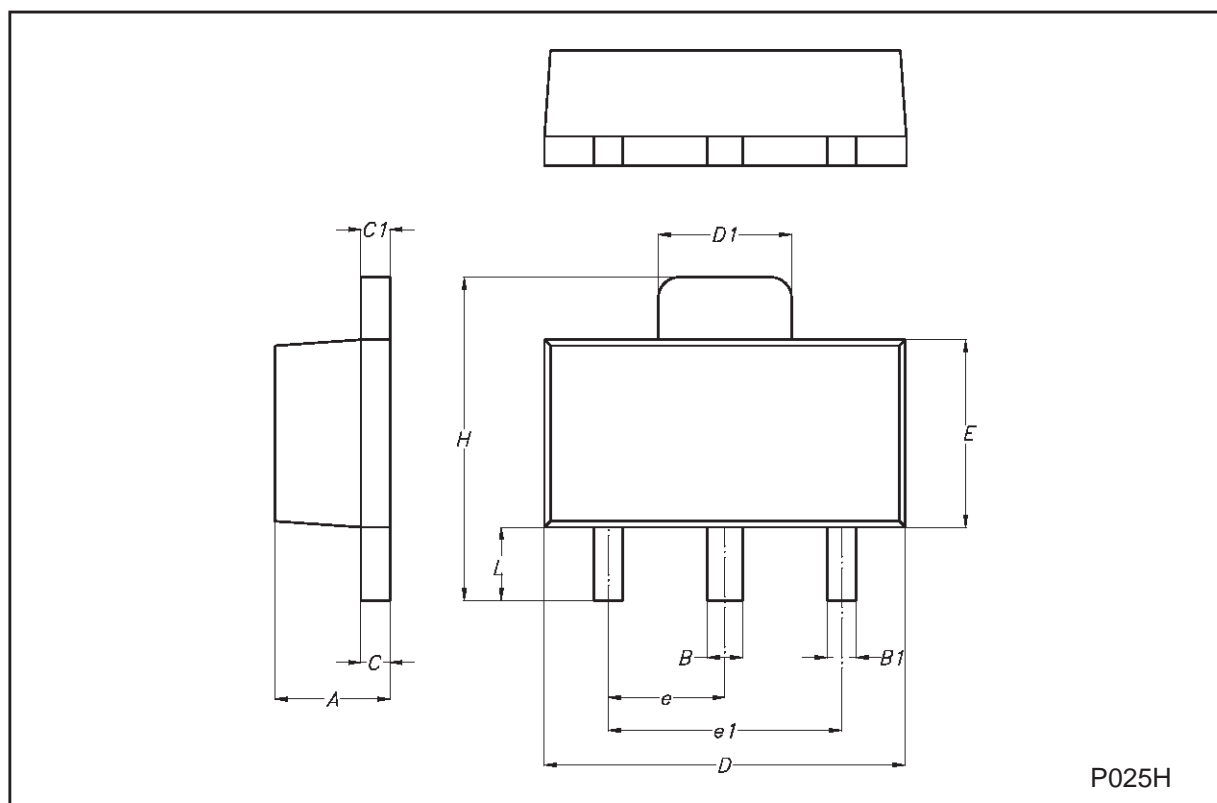
DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.068
a1	0.1		0.25	0.003		0.009
a2			1.65			0.064
a3	0.65		0.85	0.025		0.033
b	0.35		0.48	0.013		0.018
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.019
c1	45 (typ.)					
D	4.8		5.0	0.188		0.196
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F	3.8		4.0	0.14		0.157
L	0.4		1.27	0.015		0.050
M			0.6			0.023
S	8 (max.)					



0016023

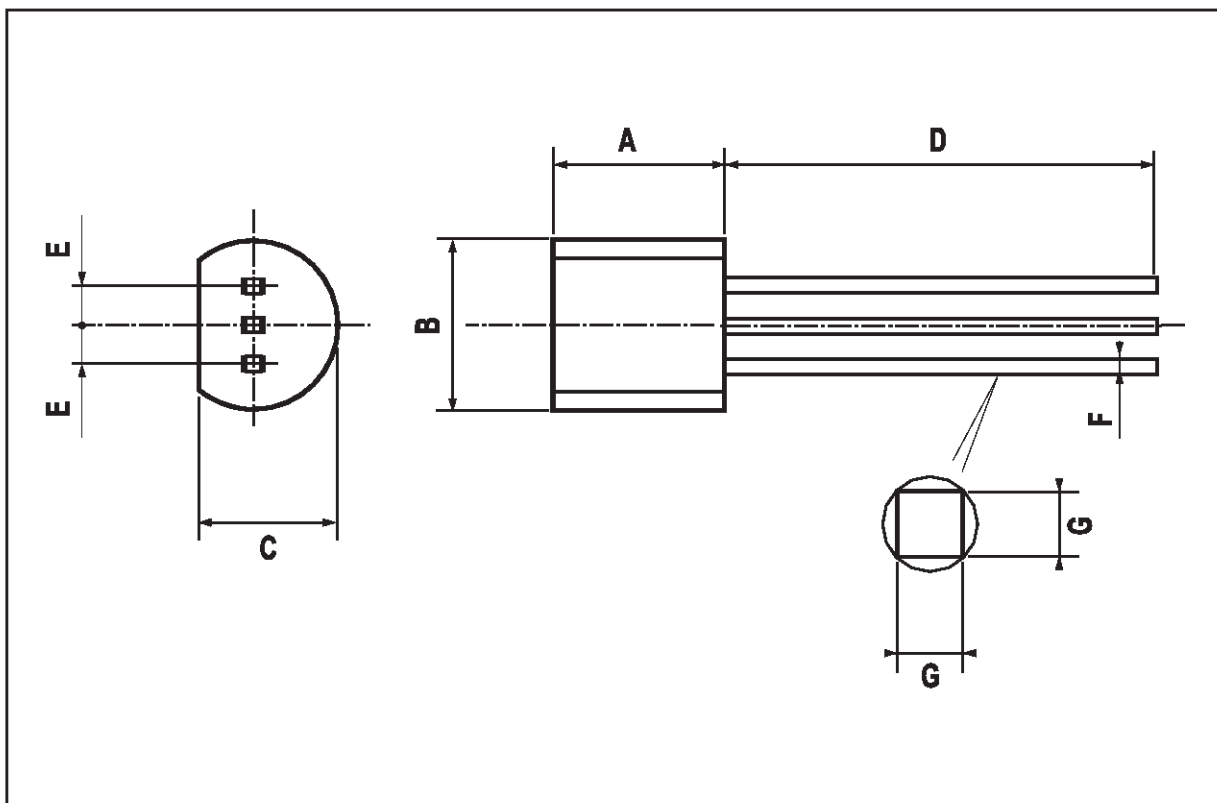
## SOT-89 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.4		1.6	55.1		63.0
B	0.44		0.56	17.3		22.0
B1	0.36		0.48	14.2		18.9
C	0.35		0.44	13.8		17.3
C1	0.35		0.44	13.8		17.3
D	4.4		4.6	173.2		181.1
D1	1.62		1.83	63.8		72.0
E	2.29		2.6	90.2		102.4
e	1.42		1.57	55.9		61.8
e1	2.92		3.07	115.0		120.9
H	3.94		4.25	155.1		167.3
L	0.89		1.2	35.0		47.2



**TO-92 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.58		5.33	0.180		0.210
B	4.45		5.2	0.175		0.204
C	3.2		4.2	0.126		0.165
D	12.7			0.500		
E		1.27			0.050	
F	0.4		0.51	0.016		0.020
G	0.35			0.14		



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