



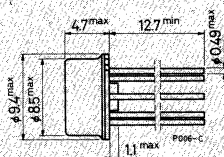
CHANNEL AMPLIFIER

ABSOLUTE MAXIMUM RATINGS

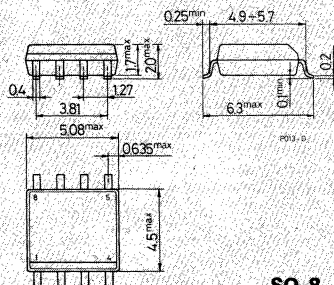
ABSOLUTE MAXIMUM RATINGS		TO-99	μ package
V_s	Supply voltage	$\pm 18\text{ V}$	
$V_{i(1)}$	Input voltage	$\pm 12\text{ V}$	
ΔV_i	Differential input voltage	$\pm 30\text{ V}$	
T_{op}	Operating temperature	$-25\text{ to }85^\circ\text{C}$	
	Output short circuit duration (2)	indefinite	
P_{tot}	Power dissipation at $T_{amb} = 70^\circ\text{C}$	520 mW	400 mW
T_{stg}	Storage temperature	$-65\text{ to }150^\circ\text{C}$	$-55\text{ to }150^\circ\text{C}$

(2) The short circuit duration is limited by thermal dissipation.

Dimensions in mm



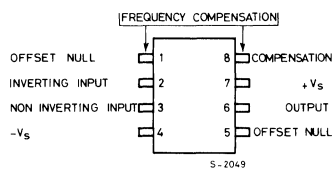
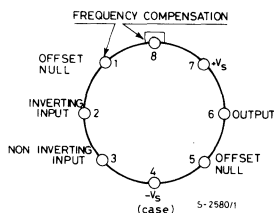
TO-99



SO-8

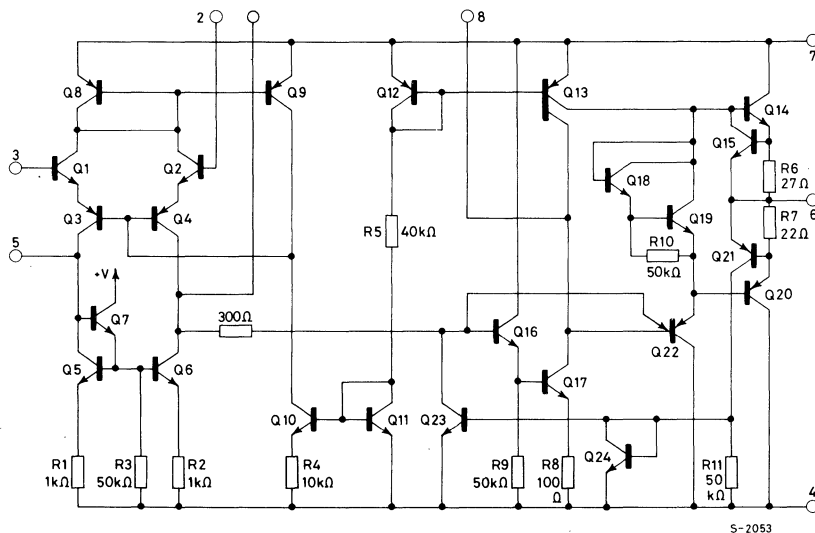
**LS045**

CONNECTION DIAGRAMS AND ORDERING NUMBERS (top views)



Type	TO-99	SO-8
LS 045	LS 045T	LS045M
LS 8045		LS 8045M

SCHEMATIC DIAGRAM



THERMAL DATA

	TO-99	SO-8
$R_{th j-amb}$ Thermal resistance junction-ambient max	155 °C/W	200* °C/W

* The thermal resistance is measured with the device mounted on a ceramic substrate (25x16x0.6 mm).

ELECTRICAL CHARACTERISTICS

($V_s = -20V$, $V_{bal} = -10V$, $T_{amb} = 25^{\circ}C$ unless otherwise specified. For V_{bal} see fig. 7)

Parameter		Test conditions	Min.	Typ.	Max.	Unit
V_{os}	Input offset voltage	$R_g = 10\text{ k}\Omega$		± 1.5	± 10	mV
I_b	Input bias current			100	750	nA
R_i	Input resistance	Open loop		2		M Ω
R_o	Output resistance			75		Ω
G_V	Open loop voltage gain	$R_L = 2\text{ k}\Omega$ $f = 10\text{ Hz}$	83	105		dB
d	Distortion	$f = 1\text{ kHz}$ $G_V = 40\text{ dB}$ $Z_{Leq} = 470\Omega$ $P_o = -5\text{ dBm}$ $P_o = 8\text{ dBm}$		0.15 0.15	0.3 0.3	% %
P_{tot}	Quiescent power dissipation	$P_o = 0$		20	30	mW
P_o	Maximum output power	$d = 1\%$ $Z_{Leq} = 470\Omega$ $G_V = 40\text{ dB}$	14	16		dBm
P_n	Noise power referred to input	$R_g \leq 1.5\text{ k}\Omega$ $f = 1\text{ kHz}$ $G_V = 40\text{ dB}$ $B = 100\text{ Hz}$			-120.5	dBm
SVR	Supply voltage rejection referred to output	$f = 1\text{ kHz}$ $G_V = 40\text{ dB}$	30	36		dB

THE FOLLOWING SPECIFICATION APPLY FOR $T_{amb} = -25\text{ to }85^{\circ}C$

V_{os}	Input offset voltage	$R_g = 10\text{ k}\Omega$			± 15	mV
I_b	Input bias current				1.5	μA
G_V	Open loop voltage gain	$R_L = 2\text{ k}\Omega$	78			dB

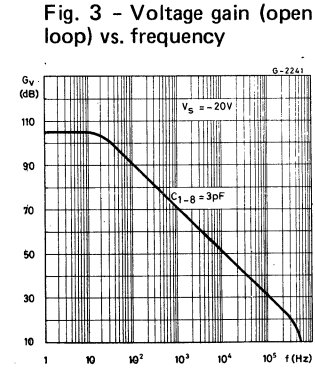
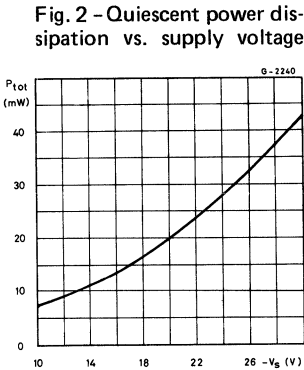
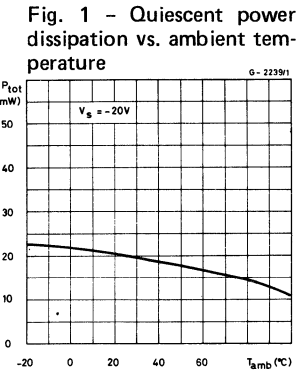


Fig. 4 - Maximum output power vs. load resistance

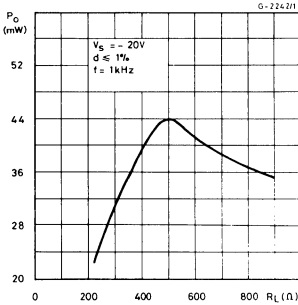


Fig. 5 - Distortion vs. out-put power

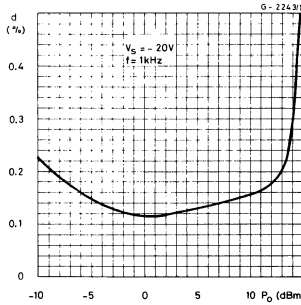
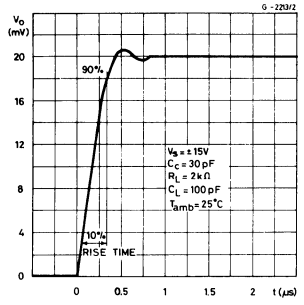


Fig. 6 - Transient response (unity gain)



APPLICATION INFORMATION

Fig. 7 - Channel amplifier circuit

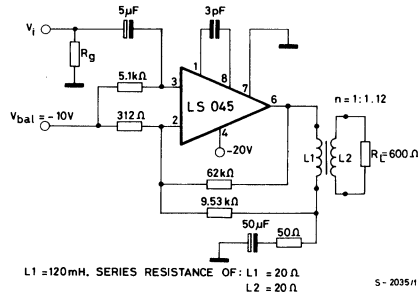


Fig. 8 - Return loss vs. frequency

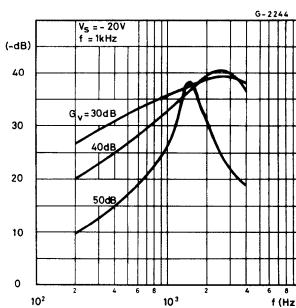


Fig. 9 - Return loss vs. voltage gain

