



Custom Devices, Inc.

APPLICATIONS

FOR A/D AND D/A CONVERSION, SAMPLE AND HOLD CIRCUITS,
AND MULTIPLEXING APPLICATIONS

FEATURES

- HIGH SWITCHING SPEEDS (300 nSec Typ)
- ZERO OFFSET VOLTAGE
- HANDLES AC SIGNALS THROUGH ONE MEGAHERTZ

ABSOLUTE MAXIMUM RATINGS

@ 25°C unless otherwise noted.

Input Supply Voltages ± 20 Volts
Storage Temperature -65 to $+200^\circ\text{C}$
Operating Temperature -55 to $+125^\circ\text{C}$

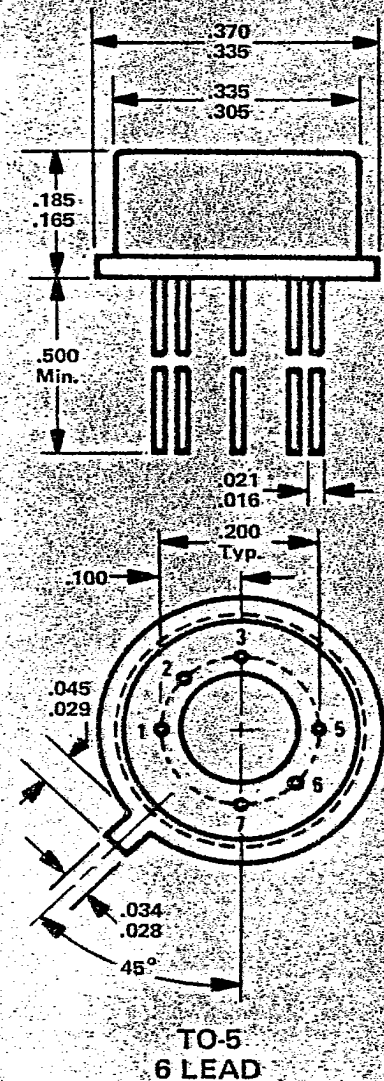
ELECTRICAL CHARACTERISTICS @ 25°C unless otherwise noted.

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNIT	TEST CONDITIONS
$R_{DS(on)}$	Drain to Source "ON" Resistance 85°C		30 50	50 90	Ohms	$I_D = 1\text{ mA}, V_{GS} = 0$ $I_D = 1\text{ mA}, V_{GS} = 0$
$R_{DS(off)}$	Drain to Source "OFF" Resistance	10 ^a			Ohms	$V_{DS} = 10\text{V}$ $V_{GS} = -7\text{V}$
$I_{D(off)}$	Drain Cutoff Current 85°C		.2 20	1.0	nA	$V_{DS} = 20\text{V}, V_{GS} = -7\text{V}$ $V_{DS} = 20\text{V}, V_{GS} = -7\text{V}$
$V_{(BR)GSS}$	Gate Breakdown Voltage	40			V	$I_G = 1\mu\text{A}$ $V_{DS} = 0$
I_{CBO}	Collector Cutoff Current			10	nA	$V_{CB} = 30\text{V}$ $I_E = 0$
$V_{(BR)CBO}$	Collector to Base Breakdown Voltage	50			V	$I_C = 10\mu\text{A}$ $I_E = 0$
$V_{(BR)ERO}$	Emitter to Base Breakdown Voltage	5			V	$I_E = 10\mu\text{A}$ $I_C = 0$
h_{FE}	Current Gain (DC)	50				$V_{CE} = 10\text{V}, I_C = 10\text{mA}$
C_{DGO}	Drain to Gate Capacitance			5	pf	$V_{DG} = 20\text{V}, I_S = 0$ $f = 1\text{ MHz}$
C_{SGO}	Source to Gate Capacitance			5	pf	$V_{SG} = 20\text{V}, I_D = 0$ $f = 1\text{ MHz}$
t_{on}	Turn-On Time		300	700	nSec	See Fig. 4
t_{off}	Turn-Off Time		300	700	nSec	See Fig. 4
V_{out}	DC Output Voltage	± 10			V	See Fig. 4
E_{out}	AC Output Voltage		10		V _{r-p}	See Fig. 5

ANALOG SWITCH

SPST

DAS 2110-B1



ANALOG SWITCH/SINGLE POLE—DOUBLE THROW

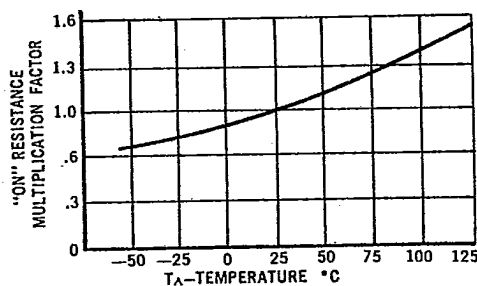


FIGURE 1
DRAIN TO SOURCE "ON"
RESISTANCE vs. TEMPERATURE
(TYPICAL)

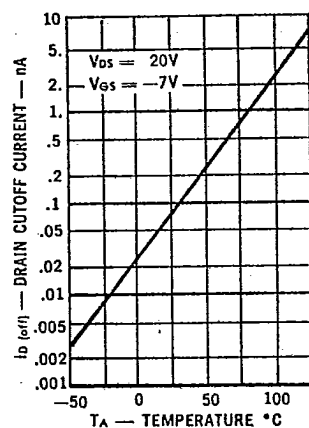


FIGURE 2
 $I_{D(off)}$ vs. TEMPERATURE
(TYPICAL)

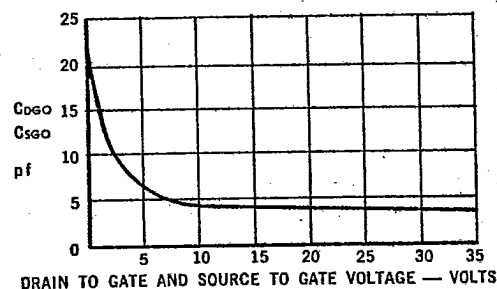


FIGURE 3
DRAIN TO GATE
CAPACITANCE vs. V_{DG}
SOURCE TO GATE
CAPACITANCE vs. V_{SG}
(TYPICAL)

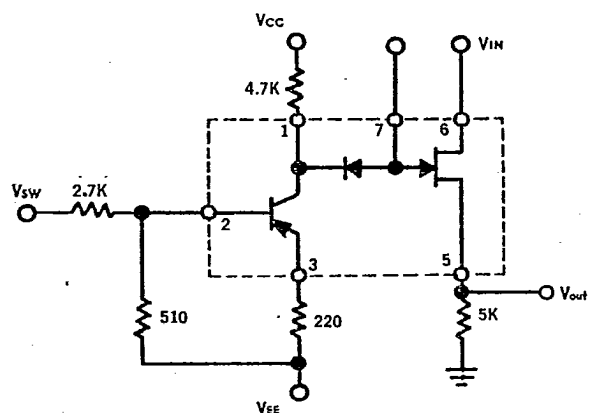


Figure 4
Switching Time Test Circuit

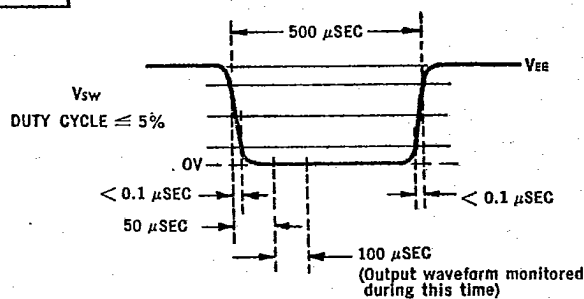
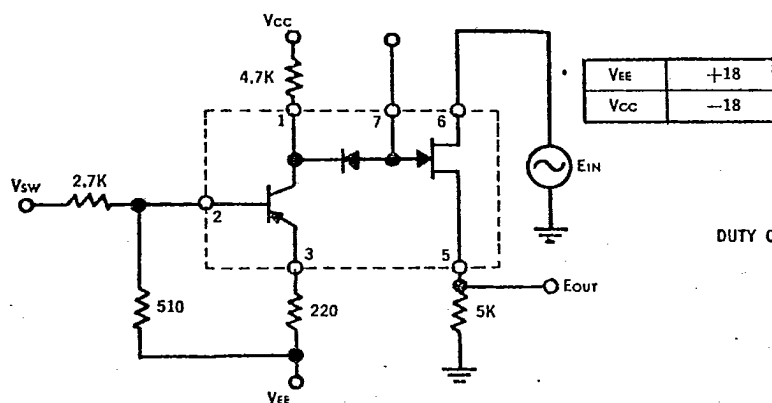
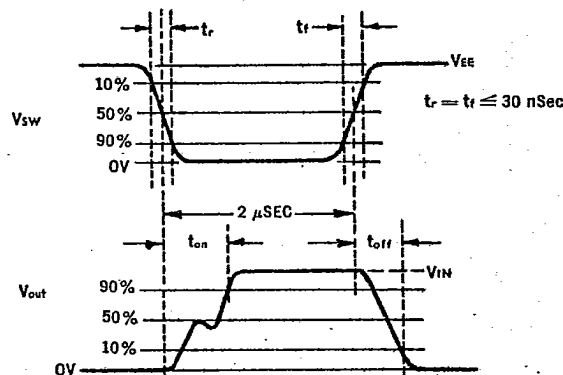


Figure 5
AC Clipping Test Circuit

DAS--02110-2X