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## NTE1688 Integrated Circuit TV Tuner Bandswitch

**Description:**

The NTE1688 is an integrated circuit in a 9-Lead SIP type package incorporating TV tuner band-switch circuits and a 31V power supply circuit.

**Features:**

- Tuner Bandswitch Circuit with 31V Voltage Regulator

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage, $V_{CC}$ .....	18V
Supply Current, $I_6$ .....	14mA
Power Dissipation, $P_D$ .....	620mW
Operating Ambient Temperature Range, $T_{opr}$ .....	$-20^\circ$ to $+70^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Threshold Voltage	$V_t$	$V_{CC} = 12V$	1.5	–	2.5	V
Input Threshold Current	$I_t$	$V_{CC} = 12V$	100	–	500	$\mu\text{A}$
Output Saturation Voltage	$V_{CE(sat)}$	$V_{CC} = 12V, I_0 = -60\text{mA}$	–	0.3	0.8	V
Pin8 Output Saturation Voltage	$V_{CE(sat)}$	$V_{CC} = 12V, I_8 = 20\text{mA}$	–	0.2	0.5	V
Voltage Regulator	$V_{6-5}$	$V_{CC} = 12V, I_6 = 10\text{mA}$	29.5	31.7	33.5	V
Voltage Regulator with Ambient Temperature	$V_{6-5}/T_A$	$T_A = -20^\circ$ to $+60^\circ\text{C}$	-1.0	0	+1.0	$\text{mV}/^\circ\text{C}$
Voltage Regulator Voltage for Drift	$\Delta V_{6-5}$	As Per Condition After 5sec Elapsed with SW ON	–	–	$\pm 50$	mV

**Input/Output Related (Logic Table)**

Input		Output				Remarks (Tuning Status)
Pin3	Pin4	Pin1	Pin2	Pin7	Pin8	
L	L	$V_{CC}$	Open	Open	L	UHF
H	L	Open	$V_{CC}$	Open	Open	VHF-L
L	H	Open	Open	$V_{CC}$	L	VHF-H
H	H	Open	Open	$V_{CC}$	Open	–

**Pin Connection Diagram**  
(Front View)

