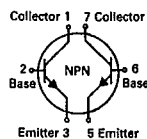


CV12253 For Specifications, See CV10253 Data.

T-29-27

MD708, A, B

CASE 654-07, STYLE 1

**DUAL
AMPLIFIER TRANSISTORS**

NPN SILICON

Refer to MD2369 for graphs.

3

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Base Voltage	V_{CBO}	40	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	200	mAdc
		One Die	Both Die Equal Power
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C MD708, MD708A, MD708B	P_D	550 3.13	600 3.42 mW mW/°C
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.4 8.0	2.0 11.4 Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	One Die	Both Die Equal Power	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	125	87.5	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}(1)$	319	292	°C/W
		Junction to Ambient	Junction to Case	
Coupling Factors		83	40	%

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(2) ($I_C = 30 \text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	15	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 10 \mu\text{Adc}, I_E = 0$)	$V_{(BR)CBO}$	40	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}, I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}, I_E = 0$) ($V_{CB} = 20 \text{ Vdc}, I_E = 0, T_A = 150^\circ\text{C}$)	I_{CBO}	—	15 30	nAdc μAdc

ON CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
DC Current Gain(2) ($I_C = 500 \mu\text{Adc}, V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 10 \text{ mAdc}, V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 100 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$) ($I_C = 150 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$)	h_{FE}	40 40 35 20	— 200 — —	—
Collector-Emitter Saturation Voltage ($I_C = 10 \text{ mAdc}, I_B = 1.0 \text{ mAdc}$) ($I_C = 50 \text{ mAdc}, I_B = 5.0 \text{ mAdc}$) ($I_C = 100 \text{ mAdc}, I_B = 10 \text{ mAdc}$)	$V_{CE(sat)}$	— — —	0.20 0.35 0.50	Vdc
Base-Emitter Saturation Voltage ($I_C = 10 \text{ mAdc}, I_B = 1.0 \text{ mAdc}$) ($I_C = 50 \text{ mAdc}, I_B = 5.0 \text{ mAdc}$) ($I_C = 100 \text{ mAdc}, I_B = 10 \text{ mAdc}$)	$V_{BE(sat)}$	0.65 — —	0.85 0.95 1.10	Vdc

(2) Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.