


2N2060,A
2N2223,A
2N2480,A



**DUAL
AMPLIFIER TRANSISTOR**
NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	2N2060,A 2N2223,A	2N2480	2N2480A	Unit
Collector-Emitter Voltage	V _{CEO}	60	40	40	Vdc
Collector-Emitter Voltage	V _{CER}	80	—	—	Vdc
Collector-Base Voltage	V _{CBO}	100	75	80	Vdc
Emitter-Base Voltage	V _{EBO}	7.0	5.0	5.0	Vdc
Collector Current — Continuous	I _C	500			mAdc
		One Die		All Die Equal Power	
Total Device Dissipation @ T _A = 25°C	P _D	2N2060,A	0.5	0.6	mW
		2N2223,A	0.5	0.6	
		2N2480,A	0.3	0.6	
		Derate above 25°C			
		2N2060,A	2.86	3.43	
		2N2223,A	2.86	3.43	
		2N2480,A	1.72	3.43	
Total Device Dissipation @ T _C = 25°C	P _D	2N2060,A	1.5	3.0	Watts
		2N2223,A	1.6	3.0	
		2N2480,A	1.0	2.0	
		Derate above 25°C			
		2N2060,A	8.6	17.2	
		2N2223,A	9.1	11.4	
		2N2480,A	5.7	11.4	
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200			°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) (I _C = 100 mAdc, R _{BE} ≤ 10 ohms)	V _{CER(sus)}	80	—	Vdc
Collector-Emitter Sustaining Voltage(1) (I _C = 20 mAdc, I _B = 0)	V _{CEO(sus)}	2N2480	40	—
		2N2480A	40	—
(I _C = 30 mAdc, I _B = 0)		2N2060, 2N2060A, 2N2223, 2N2223A	60	—
Collector-Base Breakdown Voltage (I _C = 100 μAdc, I _E = 0)	V _{(BR)CBO}	100	—	Vdc
		2N2060, 2N2060A, 2N2223, 2N2223A	75	—
		2N2480*	80	—
		2N2480A*	80	—
Emitter-Base Breakdown Voltage (I _E = 100 μAdc, I _C = 0)	V _{(BR)EBO}	7.0	—	Vdc
		2N2060, 2N2060A, 2N2223, 2N2223A	5.0	—
		2N2480, 2N2480A	5.0	—
Collector Cutoff Current (V _{CB} = 30 Vdc, I _E = 0, T _A = 150°C)	I _{CBO}	—	15	μAdc
(V _{CB} = 60 Vdc, I _E = 0)		2N2480	—	0.050
		2N2480A	—	0.020
(V _{CB} = 80 Vdc, I _E = 0)		2N2060, 2N2060A	—	0.002
		2N2223, 2N2223A	—	0.010
(V _{CB} = 80 Vdc, I _E = 0, T _A = 150°C)		2N2060, 2N2060A	—	10
		2N2223, 2N2223A	—	15
Emitter Cutoff Current (V _{BE} = 5.0 Vdc, I _C = 0)	I _{EBO}	—	2.0	nAdc
		2N2060, 2N2060A	—	10
		2N2223, 2N2223A	—	50
		2N2480	—	20
		2N2480A	—	20

