

TO-39 Metal-Can Package Transistors (NPN)

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																
Type No.	V _{CBO} (V) Min	V _{CEO} (V) Min	V _{EBO} (V) Min	P _D (W) @Tc=25°C	I _C (A)	I _{CM} (A)	I _{CBO} (μA) Max	V _{CB} (V) @	I _{CES} (μA) Max	V _{CE} (V) @	h _{FE} Min	β Max	I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) Max	V _{BE(SAT)} (V) & Min	I _C (mA) @	C _{ob} (pF) Min Max Typ	f _t (MHz) Min Typ Max	I _C (mA) @	t(off) (ns) Max	NF (dB) Max	β Freq (MHz) Max
2N2243	120	80	7	0.8	1		0.01	60			15 40 30 30 15		500 120 10 150 0.1	10 10 10 1 10	0.35	1.3	150	15	50				
2N2270	60	45	7	1	1		0.05	60			50 30	200	150 1	10 10	0.9	1.2	150	15	100		50	10	0.001
2N2440	120	80	7	0.8	0.5		0.001	90			35 100		0.1 300 150	10 10	0.4 3	0.9 1.3	50 150	15					
2N3019	140	80	7	0.8		1	0.01	90			50 90 100 50 15		0.1 10 300 500 1	10 10 10 10 10	0.2 0.5	1.1	150 500	12	100	400	50	4	0.001
2N3020	140	80	7	0.8		1	0.01	90			30 40 40 30 15	100 120 120 100 1000	0.1 10 150 500 10	10 10 10 10 10	0.2 0.5	1.1	150 500	12	80		50		
2N3053	60	40	5	5	0.7				0.25	30	50 25	250	150 150	10 2.5	1.4	1.7	150	15		100	50		
2N3300	60	30	5	0.8	0.5				0.01	50	50 50 100 75 50 35		500 150 300 10 1 0.1	10 1 10 10 10 10	0.22 0.6	1.1 1.5	150 500	8	250		50	150	
2N3440	300	250	7	1	1		20	360			40	160	20	10	0.5	1.3	50	10		15	10		
2N3498	100	100	6	1.0	0.5		0.05	50			20 25 35 40 15 95		0.1 1 10 120 500 300	10 10 10 10 10 10	0.6 0.2 0.25	1.4 0.8 0.9	300 10 50	10	150		20		
2N3499	100	100	6	1	0.5		0.05	50			35 50 75 100 20 20		0.1 1 10 300 500 300	10 10 10 10 10 10	0.2 0.25 0.6	0.8 0.9 1.4	10 50 300	10	150		20		
2N3500	150	150	6	1	0.3		0.05	75			20 25 35 40 15 15		0.1 1 10 120 300 500	10 10 10 10 10 10	0.2 0.25 0.4	0.8 0.9 1.2	10 50 150	8	150		20		
2N3501	150	150	6	1	0.3		0.05	75			35 50 100 20 75 20		0.1 1 150 300 10 500	10 10 10 10 10 10	0.4 0.2 0.25	1.2 0.8 0.9	150 10 50	8	150		20		

* NOTE: I_{CEX}