

TO-106

EPOXY PACKAGE TRANSISTORS (NPN)

Maximum Ratings						Electrical Characteristics							(Ta=25°C, Unless Otherwise Specified)						
Type No.	V _{CB0} (V)	V _{CE0} (V)	V _{EBO} (V)	I _{CBO} (μA)	V _{CB} (V)	h _{FE}		I _C & V _{CE} (mA) (V)	V _{CE(Sat)} (V)	V _{BE(Sat)} (V)		I _C (mA)	C _{ob} (pF)	f _T (MHz)		I _C (mA)	NF (dB)	Freq (MHz)	t _{off} (ns)
	Min	Min	Min	Max	Min	Max	Max	Max	Max	Min	Max	Max	Max	Min	Typ	Max	Max	Max	Max
CIL631	140	120	5.0	0.10	100	20		1.00 10	0.80			100	12.0		100				
CIL621	100	100	5.0	0.50	80	40	150	1.00 10	1.00		0.70	50	25.0		100				
CIL622	100	100	5.0	0.50	80	100	300	1.00 10	1.00		0.70	50	25.0		100		1		
CIL611	80	80	5.0	0.50	60	40	150	1.00 10	1.00		0.70	50	25.0		100		1		
CIL612	80	80	5.0	0.50	60	100	300	1.00 10	1.00		0.70	50	25.0		100		1		
CIL613	80	80	5.0	0.50	60	250	750	1.00 10	1.00		0.70	50	25.0		100		1		
CIL601	60	60	5.0	0.50	40	40	150	1.00 10	1.00		0.70	50	25.0						
CIL602	60	60	5.0	0.50	40	100	300	1.00 10	1.00		0.70	50	25.0						
CIL603	60	60	5.0	0.50	40	250	750	1.00 10	1.00		0.70	50	25.0						
CIL704	60	60	5.0	0.10	40	40	150	1.00 10	0.25			10	8.0		300				
CIL931	50	50	5.0	0.10	40	80 200		0.10 10 1.00 10	*0.60		*0.75	10	6.0				4		
CIL932	50	50	5.0	0.10	40	150 350		0.10 10 1.00 10	*0.60		*0.75	10	6.0				3		
CIL147	50	45	5.0	0.25	20	110	450	2.00 5					2.5				10	.001	
CIL147A	50	45	5.0	0.05	20	110	220	2.00 5					2.5				10		
CIL147B	50	45	5.0	0.05	20	200	450	2.00 5					2.5				10	.001	
CIL531	40	40	5.0	0.50	30	40	150	1.00 10	*1.00		*0.70	50	25.0	100					
CIL532	40	40	5.0	0.50	30	100	300	1.00 10	*1.00		*0.70	50	25.0						
CIL533	40	40	5.0	0.50	30	250	750	1.00 10	*1.00		*0.70	50	25.0						
CIL521	32	32	5.0	0.50	20	40	150	1.00 10	*1.00		*0.70	50	25.0	100					
CIL522	32	32	5.0	0.50	20	100	300	1.00 10	*1.00		*0.70	50	25.0	100					
CIL523	32	32	5.0	0.50	20	250	750	1.00 10	*1.00		*0.70	50	25.0	100					
CIL701	32	32	7.0	0.10	25	40	150	1.00 10	0.40			25	15.0						
CIL702	32	32	5.0	0.10	25	100	300	1.00 10	0.25			10	8.0		300				
CIL703	32	32	5.0	0.10	25	250	750	1.00 10	0.25			10	8.0		300				
CIL911	32	32	5.0	0.10	20	40	150	0.10 10	0.60			100	5.0				4		
CIL912	32	32	5.0	0.10	20	100	300	0.10 10	0.60			100	5.0				3		
2N4140	60	30	5.0			20 20 40 35 25 20		500.0 10 150.0 1 150.0 10 10.00 10 1.00 10 0.10 10	0.40 1.60		1.30 2.60	150 500	8.0	250		20			310

*NOTE: VCE(SAT) AND VBE(SAT) VALUES ARE TYPICAL.

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EPOXY PACKAGE TRANSISTORS (NPN)

Type No.	Maximum Ratings			Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																
	V _{CB0} (V) Min	V _{CEO} (V) Min	V _{EBO} (V) Min	I _{CB0} (μA) Max	V _{CB} (V) Min	h _{FE} Max	h _{FE} Max	I _C & V _{CE} (mA) (V)	V _{CE(Sat)} (V) Max	V _{BE(Sat)} (V) Min	V _{BE(Sat)} (V) Max	I _C (mA)	C _{ob} (pF) Max	f _T (MHz) Min	f _T (MHz) Typ	f _T (MHz) Max	I _C (mA)	NF (dB) Max	Freq (MHz)	t _{off} (ns) Max
2N4141	60	30	5.0			30		500.0	10	0.40	1.30	150	8.0	250			20			310
						50		150.0	1	1.60	2.60	500								
						100	300	150.0	10											
						75		10.00	10											
						50		1.00	10											
						35		0.10	10											
2N3565	30	25	6.0	0.10	25	150	600	1.00	10	0.35		1		240						
CIL840	25	25	4.0	0.01	20	100		0.01	5	0.70		10								
						175		0.10	5											
						250		1.00	5											
CIL148	30	20	5.0	0.05	20	110	800	2.00	5				2.5				10	.001		
CIL148A	30	20	5.0	0.05	20	110	220	2.00	5				2.5				10	.001		
CIL148B	30	20	5.0	0.05	20	200	450	2.00	5				2.5				10	.001		
CIL148C	30	20	5.0	0.05	20	420	800	2.00	5				2.5				10	.001		
CIL149	30	20	5.0	0.05	20	200	800	2.00	5				2.5				4	.001		
CIL149B	30	20	5.0	0.05	20	200	450	2.00	5				2.5				4	.001		
CIL149C	30	20	5.0	0.05	20	420	800	2.00	5				2.5				4	.001		
CIL194A	30	20	4.0	0.05	20	200	500	1.00	10				1.5	200		1				
CIL511	20	20	5.0	0.50	15	40	150	1.00	10	*1.00	*0.70	50	25.0	100						
CIL512	20	20	5.0	0.50	15	100	300	1.00	10	*1.00	*0.70	50	25.0	100						
CIL513	20	20	5.0	0.50	15	250	1000	1.00	10	*1.00	*0.70	50	25.0	100						
2N4275	40	15	4.5			18		100.0	1	0.20	0.7	0.85	10	4.0	400		10			12
						30		30.00		0.25	1.15	30								
						35	120	10.00	1	0.50	1.60	100								
										0.18	0.7	1.00	10							
CIL768	40	15	5.0	0.40	20	20	60	10.00	1	0.25		10	3.0	600						
CIL769	40	15	4.5	0.40	20	40	120	10.00	1	0.25	0.7	0.85	4.0	500	10				18	
2N4274	40	12	4.5			18		100.0	1	0.20	0.7	0.85	10	4.0	400		10			12
						30		30.00		0.25	1.15	30								
						35	120	10.00	1	0.50	1.60	100								
										0.18	0.7	1.00	10							
CIL476	12	12	4.0	0.10	10	20	60	1.00	10				2.0	30						
CIL731	12	12	4.0	0.40	10	20	100	10.00	1	0.25		10	4.0	300						
CIL732	12	12	4.0	0.40	10	40	120	10.00	1	0.25		10	4.0	300						

*NOTE: TYPICAL VALUES

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