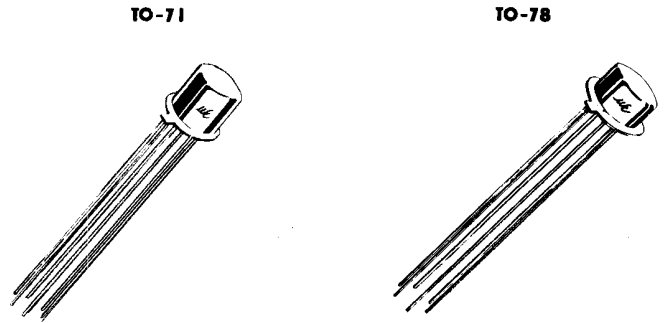


Multiple Transistors

Differential amplifiers

- h_{FE} matching = $1 - \frac{h_{FE1}}{h_{FE2}}$ is the larger of the two h_{FE} 's
- V_{BE} matching = $|V_{BE1} - V_{BE2}|$
- ΔV_{BE} matching = $|\Delta(V_{BE1} - V_{BE2})|$ @ -55°C to 25°C



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TYPE NO. NPN PNP	Maximum Ratings				Differential Characteristics.					Electrical Characteristics.		CASE
	P_D @ $T_A = 25^{\circ}\text{C}$ one side both sides	BV_{CBO}	V_{CEO} (sus)	BV_{EBO}	h_{FE} min./max.	Parameter Matching			f_T @ I_C min.	N.F. @ f max.		
						h_{FE}^1	V_{BE}^2	ΔV_{BE}^3 @ V_{CE} @ I_C				
MD 2974	500mW 750mW	45V	45V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	R-148 V
MD 2975	500mW 750mW	45V	45V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	R-148 V
MD 2978	500mW 750mW	60V	60V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	R-148 V
MD 2979	500mW 750mW	60V	60V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	R-148 V
2N 2060	500mW 600mW	100V	60V	7V	30/ 90	10%	5.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 50.0mA	8.0dB @ 1kHz	TO-78
2N 2060A	500mW 600mW	100V	60V	7V	30/ 90	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 50.0mA	8.0dB @ 1kHz	TO-78
2N 2060B	500mW 600mW	100V	60V	7V	30/ 90	10%	1.5mV	0.4mV	@ 5V @ 0.1mA	60MHz @ 50.0mA	8.0dB @ 1kHz	TO-78
2N 2915	300mW 600mW	45V	45V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	TO-78
2N 2916	300mW 600mW	45V	45V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	TO-78
2N 2919	300mW 600mW	60V	60V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	TO-78
2N 2920	300mW 600mW	60V	60V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	TO-78
2N 2974	250mW 300mW	45V	45V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	TO-71
2N 2975	250mW 300mW	45V	45V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	TO-71
2N 2978	250mW 300mW	60V	60V	6V	100/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	4.0dB @ 1kHz	TO-71
2N 2979	250mW 300mW	60V	60V	6V	225/ -	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	60MHz @ 0.5mA	3.0dB @ 1kHz	TO-71
2N 2980	250mW 300mW	100V	60V	7V	30/ 90	10%	3.0mV	-	@ 5V @ 0.1mA	60MHz @ 50.0mA	8.0dB @ 1kHz	TO-71
2N 2981	250mW 300mW	100V	60V	7V	25/150	20%	15.0mV	-	@ 5V @ 0.1mA	50MHz @ 50.0mA	-	TO-71
2N 2982	250mW 300mW	100V	60V	7V	25/150	10%	5.0mV	-	@ 5V @ 0.1mA	50MHz @ 50.0mA	-	TO-71
2N 3423	300mW 600mW	30V	15V	3V	20/200	20%	10.0mV	3.2mV	@ 3V @ 3.0mA	600MHz @ 4.0mA	3.5dB* @ 60MHz	TO-78
2N 3424	300mW 600mW	30V	15V	3V	20/200	10%	0.5mV	1.6mV	@ 3V @ 3.0mA	600MHz @ 4.0mA	3.5dB* @ 60MHz	TO-78
2N 3726	400mW 500mW	45V	45V	5V	135/350	10%	5.0mV	1.6mV	@ 5V @ 1.0mA	200MHz @ 50.0mA	4.0dB @ 1kHz	TO-78
2N 3727	400mW 500mW	45V	45V	5V	135/350	10%	2.5mV	0.8mV	@ 5V @ 1.0mA	200MHz @ 50.0mA	4.0dB @ 1kHz	TO-78
2N 4020	400mW 600mW	45V	45V	6V	250/550	20%	5.0mV	1.6mV	@ 5V @ 0.1mA	50MHz @ 0.5mA	2.0dB @ 1kHz	TO-78
2N 4021	400mW 600mW	60V	60V	6V	100/400	20%	5.0mV	1.6mV	@ 5V @ 0.1mA	40MHz @ 0.5mA	3.0dB @ 1kHz	TO-78
2N 4022	400mW 600mW	60V	60V	6V	250/550	20%	5.0mV	1.6mV	@ 5V @ 0.1mA	50MHz @ 0.5mA	2.0dB @ 1kHz	TO-78
2N 4023	400mW 600mW	45V	45V	6V	250/550	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	50MHz @ 0.5mA	2.0dB @ 1kHz	TO-78
2N 4024	400mW 600mW	60V	60V	6V	100/400	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	40MHz @ 0.5mA	3.0dB @ 1kHz	TO-78
2N 4025	400mW 600mW	60V	60V	6V	250/550	10%	3.0mV	0.8mV	@ 5V @ 0.1mA	50MHz @ 0.5mA	2.0dB @ 1kHz	TO-78

*Typical Value

Dual transistors

TYPE NO. NPN	Maximum Ratings				Electric characteristic @ $T_A = 25^{\circ}\text{C}$				CASE
	P_D @ $T_A = 25^{\circ}\text{C}$ one side both sides	BV_{CBO}	V_{LCEd}	BV_{EBO}	h_{FE} @ V_{CE} @ I_C Min./Max.	$V_{CE(sat)}$ @ I_C/I_B Max.	f_T @ I_C Min.	NF @ f Max.	
2N 2913	300mW 600mW	45V	45V	6V	60/240 @ 5V @ 0.01mA	0.35V @ 1/0.1mA	60MHz @ 0.5mA	4dB @ 1kHz	TO-78
2N 2914	300mW 600mW	45V	45V	6V	150/600 @ 5V @ 0.01mA	0.35V @ 1/0.1mA	60MHz @ 0.5mA	3dB @ 1kHz	TO-78
2N 2972	250mW 300mW	45V	45V	6V	60/240 @ 5V @ 0.01mA	0.35V @ 1/0.1mA	60MHz @ 0.5mA	4dB @ 1kHz	TO-71
2N 2973	250mW 300mW	45V	45V	6V	150/600 @ 5V @ 0.01mA	0.35V @ 1/0.1mA	60MHz @ 0.5mA	3dB @ 1kHz	TO-71