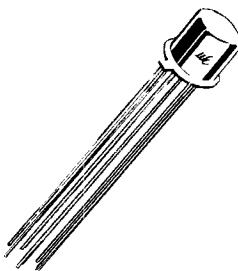


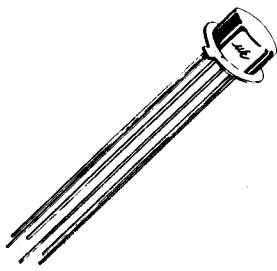
Multiple Transistors

Differential amplifiers

TO-71



TO-78



1 h_{FE} matching = $1 - \frac{h_{FE1}}{h_{FE2}}$ is the larger of the two h_{FE} 's

2 V_{BE} matching = $|V_{BE1} - V_{BE2}|$

3 ΔV_{BE} matching = $|\Delta(V_{BE1} - V_{BE2})| @ -55^\circ C$ to $25^\circ C$

TYPE NO. NPN PNP	Maximum Ratings				Differential Characteristics.					Electrical Characteristics.		CASE	
	P_D @ $T_A = 25^\circ C$ one side both sides	BV_{CBO}	V_{CEO}	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 @ $T_A = 25^\circ C$					CASE
	P_D @ $T_A = 25^\circ C$ one side both sides	BV_{CBO}	LV_{CED}	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 2N 2914 2N 2972 2N 2973	300mW 600mW	45V 45V	6V 6V	6V 6V	60/240 @ 5V @ 0.01mA 150/600 @ 5V @ 0.01mA 60/240 @ 5V @ 0.01mA 150/600 @ 5V @ 0.01mA	0.35V @ 1/0.1mA 0.35V @ 1/0.1mA 0.35V @ 1/0.1mA 0.35V @ 1/0.1mA	60MHz @ 0.5mA 60MHz @ 0.5mA 60MHz @ 0.5mA 60MHz @ 0.5mA	4dB @ 1kHz 3dB @ 1kHz 4dB @ 1kHz 3dB @ 1kHz	TO-78 TO-78 TO-71 TO-71	