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2N5954-2N5956, 2N6372-2N6374, 2N6465-2N6468, 40829-40831

Silicon N-P-N and P-N-P Medium-Power Transistors

General-Purpose Types for Switching Applications

2N5954, -2N5955, and -2N5956 are multiple-epitaxial p-n-p transistors. 2N6372, -2N6373, and -2N6374 are multiple-epitaxial n-p-n transistors. They are complements to 2N5954, 2N5955, and 2N5956.

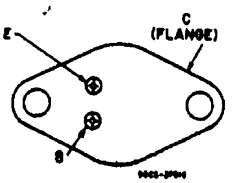
The 2N6465 and 2N6466 are multiple-epitaxial n-p-n transistors. They are complements to the 2N6467, and 2N6468, multiple-epitaxial p-n-p transistors. These devices differ in voltage ratings and in the currents at which the parameters are controlled.

All are supplied in the JEDEC TO-66 package.

Features:

- 2N5954-2N5956 complements to 2N6372-2N6374
- 2N6465, 2N6466 complements to 2N6467, 2N6468
- Low saturation voltages
- Maximum-safe-area-of-operation curves
- Thermal-cycle ratings
- Hermetically-sealed JEDEC TO-66 package

TERMINAL DESIGNATIONS



JEDEC TO-66

MAXIMUM RATINGS, *Absolute-Maximum Values:*

	N-P-N	2N6374	2N6373	2N6372	2N6465	2N6466	
	P-N-P	2N5956♦ 40831♦	2N5955♦ 40830♦	2N5954♦ 40829♦	2N6467♦	2N6468♦	
$^{*}V_{CBO}$		50	70	90	110	130	V
$^{*}V_{CEX(sus)}$ V_{BE} = −1.5 V, R_{BE} = 100 Ω		50	70	90	110	130	V
$V_{CER(sus)}$ R_{BE} = 100 Ω		45	65	85	105	125	V
$V_{CEO(sus)}$		40	60	80	100	120	V
$^{*}V_{EBO}$		5	5	5	5	5	V
$^{*}I_{C}$		6	6	6	4	4	A
$^{*}I_{B}$		2	2	2	2	2	A
$^{*}P_{T}$							
At T_C up to 25°C		40 (2N6374) (2N5956)	40 (2N6373) (2N5955)	40 (2N6372) (2N5954)	40	40	W
At T_A up to 25°C		5.8 (40831)	5.8 (40830)	5.8 (40829)	–	–	W
At T_C above 25°C		Derate linearly to 200°C					
$^{*}T_J$, T_{stg}		−65 to +200					°C
$^{*}T_L$ At distances ≥ 1/32 in. (0.8 mm) from seating plane for 10 s max.		+235					°C

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

ELECTRICAL CHARACTERISTICS, *At Case Temperature (T_C) = 25°C unless otherwise specified*

CHARACTERISTIC	TEST CONDITIONS◆ VOLTAGE V dc		CURRENT A dc		LIMITS 2N6374 2N5956◆ 40831◆		2N6373 2N5955◆ 40830◆		2N6372 2N5954◆ 40829◆		UNITS
	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	Min.	Max.	
• I_{CER} R_{BE}=100 Ω	35				–	100	–	–	–	–	μA
	55				–	–	–	100	–	–	
	75				–	–	–	–	–	100	
• I_{CEX} R_{BE}=100 Ω	45	−1.5			–	100	–	–	–	–	μA
	65	−1.5			–	–	–	100	–	–	
	85	−1.5			–	–	–	–	–	100	
• R_{BE}=100 Ω, T_C=150°C	45	−1.5			–	2	–	–	–	–	mA
	65	−1.5			–	–	–	2	–	–	
	85	−1.5			–	–	–	–	–	2	
• I_{CEO}	25				–	1	–	–	–	–	mA
	45				–	–	–	1	–	–	
	65				–	–	–	–	–	1	
• I_{EBO}		−5			–	0.1	–	0.1	–	0.1	mA
• h_{FE}	4		3[a]		20	100	–	–	–	–	
	4		2.5[a]		–	–	20	100	–	–	
	4		2[a]		–	–	–	–	20	100	
	4		6[a]		5	–	5	–	5	–	
• $V_{CEO(sus)}$			0.1[a]		40[b]	–	60[b]	–	80[b]	–	V
$V_{CER(sus)}$ R_{BE}=100 Ω			0.1[a]		45[b]	–	65[b]	–	85[b]	–	V
$V_{CEX(sus)}$ R_{BE}=100 Ω		−1.5	0.1[a]		50[b]	–	70[b]	–	90[b]	–	V
• V_{BE} All types	4		3[a]		–	2	–	–	–	–	V
All types	4		2.5[a]		–	–	–	2	–	–	
All types	4		2[a]		–	–	–	–	–	2	
2N6372-2N6374	4		6[a]		–	3	–	3	–	3	
• $V_{CE(sat)}$			3[a]	0.3	–	1	–	–	–	–	V
			2.5[a]	0.25	–	–	–	1	–	–	
			2[a]	0.2	–	–	–	–	–	1	
• $\|h_{fe}\|$ f=1 MHz											
2N6372-2N6374	4		1		4	–	4	–	4	–	
2N5954-56,40829-31	−4		−1		5	–	5	–	5	–	
• h_{fe} f=1 kHz	4		0.5		25	–	25	–	25	–	
$R_{\theta JC}$ 2N5954-56, 2N6372-74					–	4.3	–	4.3	–	4.3	°C/W
$R_{\theta JA}$ 40829-40831					–	30	–	30	–	30	