

TECHNICAL DATA

PNP SILICON SMALL SIGNAL TRANSISTOR

Qualified per MIL-PRF-19500/382

Devices

2N2944A

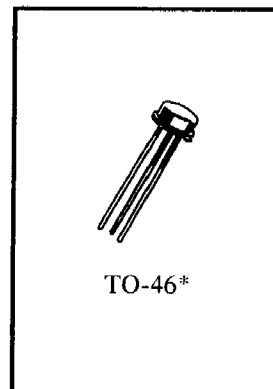
2N2945A

2N2946A

MAXIMUM RATINGS

Ratings	Sym	2N2944A	2N2945A	2N2946A	Unit
Collector-Emitter Voltage	V_{CE0}	10	20	35	Vdc
Emitter-Collector Voltage	V_{ECO}	10	20	35	Vdc
Collector-Base Voltage	V_{CBO}	15	25	40	Vdc
Emitter-Base Voltage	V_{EBO}	15	25	40	Vdc
Collector Current	I_C	100			mA _{dc}
Total Power Dissipation @ $T_A = +25^\circ\text{C}$	$P_T^{(1)}$	400			mW
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200			$^\circ\text{C}$

1) Derate linearly 2.30 mW/ $^\circ\text{C}$ above $T_A = +25^\circ\text{C}$



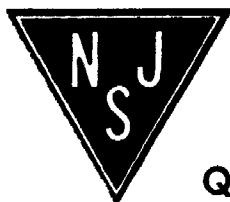
*See appendix A for package outline

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 10 \mu\text{A}_{dc}$	2N2944A 2N2945A 2N2946A	$V_{(BR)CEO}$	10 20 35	Vdc
Emitter-Collector Breakdown Voltage $I_E = 10 \mu\text{A}_{dc}$	2N2944A 2N2945A 2N2946A	$V_{(BR)ECO}$	10 20 35	Vdc
Collector-Base Cutoff Current $I_C = 10 \mu\text{A}_{dc}, V_{CB} = -15 \text{Vdc}$ $I_C = 10 \mu\text{A}_{dc}, V_{CB} = -25 \text{Vdc}$ $I_C = 10 \mu\text{A}_{dc}, V_{CB} = -40 \text{Vdc}$	2N2944A 2N2945A 2N2946A	I_{CBO}	10 10 10	μA_{dc} μA_{dc} μA_{dc}



Quality Semi-Conductors

2N2944A, 2N2945A, 2N2946A

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
Emitter-Base Cutoff Current $V_{EB} = 15 \text{ Vdc}$ $V_{EB} = 25 \text{ Vdc}$ $V_{EB} = 40 \text{ Vdc}$	I_{EBO}		0.1 0.2 0.5	$\eta\text{A dc}$

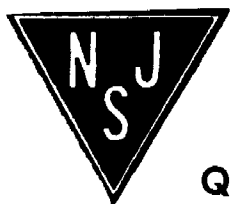
ON CHARACTERISTICS ⁽²⁾

Forward-Current Transfer Ratio $I_C = 1.0 \text{ mAdc}$, $V_{CE} = 0.5 \text{ Vdc}$	h_{FE}	100 70 50		
Forward-Current Transfer Ratio $I_B = 200 \mu\text{Adc}$, $V_{EC} = -0.5 \text{ Vdc}$	$h_{FE(INV)}$	50 30 20		
Emitter-Collector Offset Voltage $I_B = 200 \mu\text{Adc}$, $I_E = 0$ $I_B = 1.0 \text{ mAdc}$, $I_E = 0$ $I_B = 2.0 \text{ mAdc}$, $I_E = 0$	$V_{EC(OFS)}$		0.3 0.5 0.8 0.6 1.0 2.0 1.0 1.6 2.5	mVdc

DYNAMIC CHARACTERISTICS

Emitter-Collector On-State Resistance $I_B = 100 \mu\text{Adc}$, $I_E = 0$, $I_C = 100 \mu\text{Adc (rms)}$ $f = 1.0 \text{ kHz}$ $I_B = 1.0 \text{ mAdc}$, $I_E = 0$, $I_C = 100 \mu\text{Adc (rms)}$ $f = 1.0 \text{ kHz}$	$r_{ec(on)}$		10 12 14 4.0 6.0 8.0	Ω
Magnitude of Small-Signal Forward Current Transfer Ratio $I_C = 1.0 \text{ mAdc}$, $V_{CE} = 6.0 \text{ Vdc}$, $f = 1.0 \text{ MHz}$	h_{fe}	15 10 5.0	55 55 55	
Output Capacitance $V_{CB} = 6.0 \text{ Vdc}$, $I_E = 0$, $100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		10	pF
Input Capacitance $V_{EB} = 6.0 \text{ Vdc}$, $I_C = 0$, $100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{ibo}		6.0	pF

(2) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.



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