

PNP SILICON SMALL SIGNAL TRANSISTOR

Qualified per MIL-PRF-19500/382

Devices

2N2944A

2N2945A

2N2946A

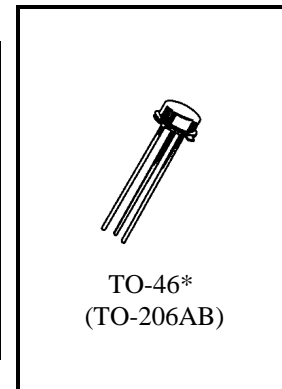
Qualified Level

JAN
JANTX
JANTV

MAXIMUM RATINGS

Ratings	Sym	2N2944A	2N2945A	2N2946A	Unit
Collector-Emitter Voltage	V_{CEO}	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			mAdc
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
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage $I_C = 10 \mu\text{Adc}$	$V_{(BR)CEO}$	10		Vdc
2N2944A		20		
2N2945A 2N2946A		35		
Emitter-Collector Breakdown Voltage $I_E = 10 \mu\text{Adc}$	$V_{(BR)ECO}$	10		Vdc
2N2944A		20		
2N2945A 2N2946A		35		
Collector-Base Cutoff Current $I_C = 10 \mu\text{Adc}, V_{CB} = -15 \text{Vdc}$	I_{CBO}	10		μAdc
$I_C = 10 \mu\text{Adc}, V_{CB} = -25 \text{Vdc}$		10		μAdc
$I_C = 10 \mu\text{Adc}, V_{CB} = -40 \text{Vdc}$		10		μAdc

2N2944A, 2N2945A, 2N2946A JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
Emitter-Base Cutoff Current V _{EB} = 15 Vdc V _{EB} = 25 Vdc V _{EB} = 40 Vdc	I _{EBO}		0.1 0.2 0.5	ηAdc
2N2944A				
2N2945A 2N2946A				

ON CHARACTERISTICS ⁽²⁾

Forward-Current Transfer Ratio I _C = 1.0 mAdc, V _{CE} = 0.5 Vdc	h _{FE}	100		
2N2944A		70		
2N2945A 2N2946A		50		
Forward-Current Transfer Ratio I _B = 200 μAdc, V _{EC} = -0.5 Vdc	h _{FE(INV)}	50		
2N2944A		30		
2N2945A 2N2946A		20		
Emitter-Collector Offset Voltage I _B = 200 μAdc, I _E = 0	V _{EC(OFS)}		0.3	mVdc
2N2944A			0.5	
2N2945A			0.8	
I _B = 1.0 mAdc, I _E = 0			0.6	
2N2944A			1.0	
2N2945A 2N2946A			2.0	
I _B = 2.0 mAdc, I _E = 0		1.0		
2N2944A		1.6		
2N2945A 2N2946A		2.5		

DYNAMIC CHARACTERISTICS

Emitter-Collector On-State Resistance I _B = 100 μAdc, I _E = 0, I _c = 100 μAdc (rms) f = 1.0 kHz	r _{ec(on)}		10	Ω
2N2944A			12	
2N2945A 2N2946A			14	
I _B = 1.0 mAdc, I _E = 0, I _c = 100 μAdc (rms) f = 1.0 kHz			4.0	
2N2944A			6.0	
2N2945A 2N2946A			8.0	
Magnitude of Small-Signal Forward Current Transfer Ratio I _C = 1.0 mAdc, V _{CE} = 6.0Vdc, f = 1.0 MHz	h _{fe}	15	55	
2N2944A		10	55	
2N2945A 2N2946A		5.0	55	
Output Capacitance V _{CB} = 6.0 Vdc, I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{obo}		10	pF
Input Capacitance V _{EB} = 6.0 Vdc, I _C = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{ibo}		6.0	pF

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