

UNITIZED DUAL NPN SILICON TRANSISTOR

Qualified per MIL-PRF-19500/270

Devices

2N2060
2N2060L

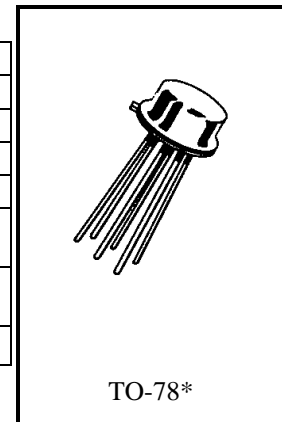
Qualified Level

JAN
JANTX
JANTXV

MAXIMUM RATINGS

Ratings		Symbol	2N2060		Unit
Collector-Emitter Voltage		V_{CEO}	60		Vdc
Collector-Base Voltage		V_{CBO}	100		Vdc
Emitter-Base Voltage		V_{EBO}	7.0		Vdc
Collector Current		I_C	500		mAdc
			One Section	Both Sections	
Total Power Dissipation	@ $T_A = +25^{\circ}\text{C}$ ⁽¹⁾	P_T	540	600	mW
	@ $T_C = +25^{\circ}\text{C}$ ⁽²⁾		1.5	2.12	W
Operating & Storage Junction Temperature Range		T_J, T_{stg}	-65 to +200		$^{\circ}\text{C}$

- 1) Derate linearly 3.08 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$ for one section, 3.48 mW/ $^{\circ}\text{C}$ for both sections
 2) Derate linearly 8.6 mW/ $^{\circ}\text{C}$ for $T_C > 25^{\circ}\text{C}$ for one section, 12.1 mW/ $^{\circ}\text{C}$ for both sections



*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 ⁽³⁾ $R_{BE} \leq 10 \Omega, I_C = 10 \text{ mAdc}$	$V_{(BR)CER}$	80		Vdc
Collector-Emitter Breakdown Voltage $I_C = 30 \text{ mAdc}$	$V_{(BR)CEO}$	60		Vdc
Collector-Base Cutoff Current $V_{CB} = 100 \text{ Vdc}$ $V_{CB} = 80 \text{ Vdc}$	I_{CBO}		10 2.0	μAdc ηAdc
Emitter-Base Cutoff Current $V_{EB} = 7.0 \text{ Vdc}$ $V_{EB} = 5.0 \text{ Vdc}$	I_{EBO}		10 2.0	μAdc ηAdc

2N2060, 2N2060L JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
Forward-Current Transfer Ratio I _C = 10 μAdc, V _{CE} = 5.0 Vdc I _C = 100 μAdc, V _{CE} = 5.0 Vdc I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc I _C = 10 mAdc, V _{CE} = 5.0 Vdc	h _{FE}	25 30 40 50	75 90 120 150	
Collector-Emitter Saturation Voltage I _C = 50 mAdc, I _B = 5.0 mAdc	V _{CE(sat)}		0.3	Vdc
Base-Emitter Saturation Voltage I _C = 50 mAdc, I _B = 5.0 mAdc	V _{BE(sat)}		0.9	Vdc

DYNAMIC CHARACTERISTICS

Common Emitter Small-Signal Short-Circuit Forward-Current Transfer ratio I _C = 50 mAdc, V _{CE} = 10 Vdc, f = 20 MHz	h _{fe}	3	25	
Small-Signal Short-Circuit Input Impedance I _C = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz	h _{ib}	20	30	Ω
Small-Signal Short-Circuit Forward-Current Transfer Ratio I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz	h _{fe}	50	150	
Small-Signal Short-Circuit Input Impedance I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz	h _{ie}	1,000	4,000	Ω
Small-Signal Open-Circuit Output Admittance I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz	h _{oe}	0	16	μmhos
Input Capacitance V _{EB} = 0.5 Vdc, I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{ibo}		85	pF
Output Capacitance V _{CB} = 10 Vdc, I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{obo}		15	pF

(3)Pulse Test: Pulse Width 250 to 350μs, Duty Cycle ≤ 2.0%.