NPN SILICON SWITCHING TRANSISTOR
Qualified per MIL-PRF-19500/255

Devices		*Qualified Level*
2N2221A	**2N2222A**	**JAN**
2N2221AL	**2N2222AL**	**JANTX**
2N2221AUA	**2N2222AUA**	**JANTXV**
2N2221AUB	**2N2222AUB**	**JANS**
		JANHC

MAXIMUM RATINGS

Ratings	Symbol	All Types	Unit
Collector-Emitter Voltage	V_{CEO}	50	Vdc
Collector-Base Voltage	V_{CBO}	75	Vdc
Emitter-Base Voltage	V_{EBO}	6.0	Vdc
Collector Current	I_C	800	mAdc

Total Power Dissipation @ $T_A = +25^0C$
    2N2221A, L; 2N2222A, L [1]
    2N2221AUA; 2N2222AUA [2]
    2N2221AUB; 2N2222AUB [1]
	P_T	0.5
		0.65
		0.50
			W

Operating & Storage Junction Temperature Range	$T_{op, }T_{stg}$	-65 to +200	^0C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit

Thermal Resistance, Junction-to-Ambient
    2N2221A, L; 2N2222A, L
    2N2221AUA; 2N2222AUA
    2N2221AUB; 2N2222AUB
	$R_{\theta JA}$	325
		210
		325
			$^0C/W$

1) Derate linearly 3.08 mW/^{0}C above $T_A > +37.5^0C$
2) Derate linearly 4.76 mW/^{0}C above $T_A > +63.5^0C$

TO-18* (TO-206AA)
2N2221A, 2N2222A

4 PIN*
2N2221AUA, 2N2222AUA

3 PIN*
2N2221AUB, 2N2222AUB
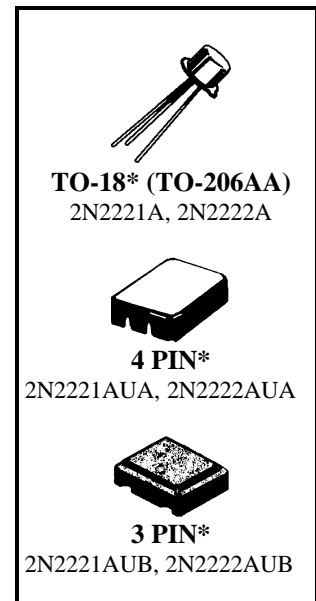
*See appendix A for package outline

ELECTRICAL CHARACTERISTICS ($T_A = 25^0C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage $I_C = 10$ mAdc	$V_{(BR)CEO}$	50		Vdc

Collector-Base Cutoff Current
    $V_{CB} = 75$ Vdc
    $V_{CB} = 60$ Vdc
	I_{CBO}		10
			10
				μAdc
				ηAdc

Emitter-Base Cutoff Current
    $V_{EB} = 6.0$ Vdc
    $V_{EB} = 4.0$ Vdc
	I_{EBO}		10
			10
				μAdc
				ηAdc

Collector-Base Cutoff Current $V_{CE} = 50$ Vdc	I_{CES}		50	ηAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS [3]				
Forward-Current Transfer Ratio				
I_C = 0.1 mAdc, V_{CE} = 10 Vdc 2N2221A, L, UA, UB		30		
2N2222A, L, UA, UB		50		
I_C = 1.0 mAdc, V_{CE} = 10 Vdc 2N2221A, L, UA, UB		35	150	
2N2222A, L, UA, UB		75	325	
I_C = 10 mAdc, V_{CE} = 10 Vdc 2N2221A, L, UA, UB	h_{FE}	40		
2N2222A, L, UA, UB		100		
I_C = 150 mAdc, V_{CE} = 10 Vdc 2N2221A, L, UA, UB		40	120	
2N2222A, L, UA, UB		100	300	
I_C = 500 mAdc, V_{CE} = 10 Vdc 2N2221A, L, UA, UB		20		
2N2222A, L, UA, UB		30		
Collector-Emitter Saturation Voltage				
I_C = 150 mAdc, I_B = 15 mAdc	$V_{CE(sat)}$		0.3	Vdc
I_C = 500 mAdc, I_B = 50 mAdc			1.0	
Base-Emitter Voltage				
I_C = 150 mAdc, I_B = 15 mAdc	$V_{BE(sat)}$	0.6	1.2	Vdc
I_C = 500 mAdc, I_B = 50 mAdc			2.0	
DYNAMIC CHARACTERISTICS				
Small-Signal Short-Circuit Forward Current Transfer Ratio				
I_C = 1.0 mAdc, V_{CE} = 10 Vdc, f = 1.0 kHz 2N2221A, L, UA, UB	h_{fe}		30	
2N2222A, L, UA, UB			50	
Magnitude of Small-Signal Short-Circuit				
Forward Current Transfer Ratio	$\left\| h_{fe} \right\|$		2.5	
I_C = 20 mAdc, V_{CE} = 20 Vdc, f = 100 MHz				
Output Capacitance				
V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C_{obo}		8.0	pF
Input Capacitance				
V_{EB} = 0.5 Vdc, I_C = 0, 100 kHz ≤ f ≤ 1.0 MHz	C_{ibo}		25	pF
SWITCHING CHARACTERISTICS				
Turn-On Time				
See Figure 8 of MIL-PRF-19500/255	t_{on}		35	ηs
Turn-Off Time				
See Figure 9 of MIL-PRF-19500/255	t_{off}		300	ηs

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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for microchip *manufacturer:*

Other Similar products are found below :

SW500024 ATSTK600-RC46 MA330027 AVRSB100 ATSTK600-RC14 ATF750C-10GM/883 AT28C010-20FM/883 MSLB9082DGA PIC18C658-E/PT SY89544UMG MCP87022T-U/MF PIC24FJ128GB202-I/SS DSC1001AI5-033.3330 DSC1123AL1-150.0000 DSC1001AI5-125.0060 PIC32MZ2048ECG124-I/TL PIC32MZ1024ECH124-I/TL MX573NBA622M080 DSC1001AI5-100.0000 DSC1001AI5-048.0000 MCP73834-CNI/MF DSC1123CI2-212.5000 DSPIC33EP128GS702-E/SO PIC16C73B-20/SS DSC1001CI2-030.0000 KSZ8864RMNUB BM71BLES1FC2-0002AA DSC1001CL5-114.0000 PIC18LF45K42-E/P ATXMEGA64A1U-C7U DSC1001DL5-033.0000 AT97SC3205T-H3M4C10B DSC1001BI5-020.0000 DSC1001BL1-016.0000 DSC1001AE1-006.1440 PCM16XB1 MA160014 MA330019-2 MCP1630RD-DDBK3 MCP2030DM-TPR MCP3421DM-BFG MCP3551DM-PCTL MCP4642T-503E/MF MCP607-I/SN MCP621-E/SN MIC1344YFT-EV MIC23451-AAAYFL-T5 MIC5209YU-TR MIC5356-JGYMME PIC10F206-E/P