



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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NPN SILICON SWITCHING TRANSISTOR

Qualified per MIL-PRF-19500/ 423

Devices

2N5581

2N5582

Qualified Level

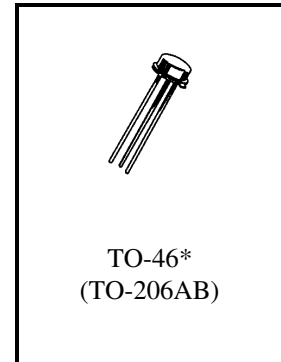
JAN
JANTX
JANTXV

MAXIMUM RATINGS

Ratings	Symbol	Value	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	P_T	@ $T_A = 25^{\circ}\text{C}$ ⁽¹⁾	0.5	W
		@ $T_C = 25^{\circ}\text{C}$ ⁽²⁾	2.0	W
Operating & Storage Junction Temperature Range	T_{op}, T_{stg}	-55 to +200	$^{\circ}\text{C}$	

1) Derate linearly 2.86 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$

2) Derate linearly 11.43 mW/ $^{\circ}\text{C}$ for $T_C > 25^{\circ}\text{C}$



*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 $I_C = 10 \text{ mAdc}$	$V_{(BR)CEO}$	50		Vdc
Collector-Base Cutoff Current $V_{CB} = 60 \text{ Vdc}$ $V_{CB} = 75 \text{ Vdc}$	I_{CBO}		10 10	ηAdc μAdc
Emitter-Base Cutoff Current $V_{EB} = 4.0\text{Vdc}$ $V_{EB} = 6.0\text{Vdc}$	I_{EBO}		10 10	ηAdc μAdc

2N5581, 2N5582 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
Forward-Current Transfer Ratio I _C = 0.1 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 1.0 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 10 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 150 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 500 mA _{dc} , V _{CE} = 10 V _{dc}	2N5581	h _{FE}	30 35 40 40 20	120
I _C = 0.1 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 1.0 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 10 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 150 mA _{dc} , V _{CE} = 10 V _{dc} I _C = 500 mA _{dc} , V _{CE} = 10 V _{dc}	2N5582	h _{FE}	50 75 100 100 30	300
Collector-Emitter Saturation Voltage I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc}	V _{CE(sat)}		0.3 1.0	V _{dc}
Base-Emitter Voltage I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc}	V _{BE(sat)}	0.6	1.2 2.0	V _{dc}

DYNAMIC CHARACTERISTICS

Forward Current Transfer Ratio I _C = 1.0 mA _{dc} , V _{CE} = 10 V _{dc}	2N5581 2N5582	h _{fe}	30 50	
Forward Current Transfer Ratio I _C = 50 mA _{dc} , V _{CE} = 20 V _{dc} , f = 100 MHz		h _{fe}	2.5	
Output Capacitance V _{CB} = 10 V _{dc} , I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz		C _{obo}	8.0	pF
Input Capacitance V _{EB} = 0.5 V _{dc} , I _C = 0, 100 kHz ≤ f ≤ 1.0 MHz		C _{ibo}	25	pF

SWITCHING CHARACTERISTICS

Turn-On Time V _{CC} = 30 V _{dc} ; I _C = 150 mA _{dc} ; I _{B1} = 15 mA _{dc}	t _{on}	35	ηs
Turn-Off Time V _{CC} = 30 V _{dc} ; I _C = 150 mA _{dc} ; I _{B1} = I _{B2} = 15 mA _{dc}	t _{off}	300	ηs

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