



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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PNP SILICON SWITCHING TRANSISTOR

Qualified per MIL-PRF-19500/ 512

Devices

2N4029

2N4033

Qualified Level

JAN
JANTX
JANTXV

MAXIMUM RATINGS

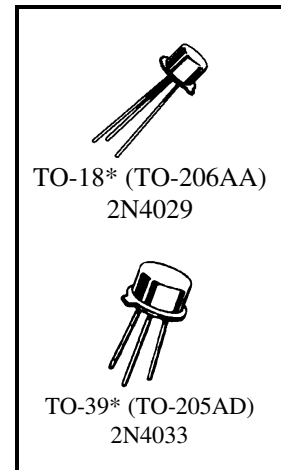
Ratings	Symbol	VALUE		Unit
Collector-Emitter Voltage	V_{CEO}	80		Vdc
Collector-Base Voltage	V_{CBO}	80		Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Collector Current	I_C	1.0		Adc
		2N4029 ¹	2N4033 ²	
Total Power Dissipation @ $T_A = +25^{\circ}\text{C}$	P_T	0.5	0.8	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200		$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	25.0	$^{\circ}\text{C}/\text{W}$

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

2) Derate linearly 4.56 mW/ $^{\circ}\text{C}$ for $T_A > +25^{\circ}\text{C}$



*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-Base Cutoff Current $V_{CB} = 80 \text{ Vdc}$ $V_{CB} = 60 \text{ Vdc}$	I_{CBO}		10 10	μAdc ηAdc
Emitter-Base Cutoff Current $V_{BE} = 5.0 \text{ Vdc}$ $V_{BE} = 3.0 \text{ Vdc}$	I_{EBO}		25 10	μAdc ηAdc
Collector-Emitter Cutoff Voltage $V_{BE} = 40 \text{ Vdc}; V_{CE} = 60 \text{ Vdc}$	I_{CEX}		25	ηAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
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DC CHARACTERISTICS⁽³⁾

Forward-Current Transfer Ratio I _C = 100 μAdc, V _{CE} = 5.0 Vdc I _C = 100 mAdc, V _{CE} = 5.0 Vdc I _C = 500 mAdc, V _{CE} = 5.0 Vdc I _C = 1.0 Adc, V _{CE} = 5.0 Vdc	h _{FE}	50 100 70 25	300	
Collector-Emitter Saturation Voltage I _C = 150 mAdc, I _B = 15 mAdc I _C = 500 mAdc, I _B = 50 mAdc I _C = 1.0 Adc, I _B = 100 mAdc	V _{CE(sat)}		0.15 0.50 1.0	Vdc
Base-Emitter Voltage I _C = 150 mAdc, I _B = 15 mAdc I _C = 500 mAdc, I _B = 50 mAdc	V _{BE(sat)}		0.9 1.2	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short-Circuit Forward-Current Transfer Ratio I _C = 50 mAdc, V _{CE} = 10 Vdc, f = 100 MHz	h _{fe}	1.5	6.0	
Output Capacitance V _{CB} = 10 Vdc, I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{obo}		20	pF
Input Capacitance V _{EB} = 0.5 Vdc, I _C = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{ibo}		80	pF

SWITCHING CHARACTERISTICS

On-Time V _{CC} = 31.9 Vdc; I _C = 500 mAdc; I _{B1} = 50 mAdc	t _d		15	ηs
Rise Time V _{CC} = 31.9 Vdc; I _C = 500 mAdc; I _{B1} = 50 mAdc	t _r		25	ηs

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