



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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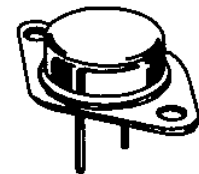
NPN HIGH POWER SILICON TRANSISTOR
Qualified per MIL-PRF-19500/408
Devices
2N3715
2N3716
Qualified Level
**JAN
JANTX
JANTXV**
MAXIMUM RATINGS

Ratings	Symbol	2N3715	2N3716	Units
Collector-Emitter Voltage	V_{CEO}	60	80	Vdc
Collector-Base Voltage	V_{CBO}	80	100	Vdc
Emitter-Base Voltage	V_{EBO}	7.0		Vdc
Base Current	I_B	4.0		Adc
Collector Current	I_C	10		Adc
Total Power Dissipation	P_T	@ $T_A = 25^{\circ}C$	5.0	W
		@ $T_C = 100^{\circ}C$	85.7	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		$^{\circ}C$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.17	$^{\circ}C/W$

 1) Derate linearly 28.57 mW/ $^{\circ}C$ for $T_A > 25^{\circ}C$

 2) Derate linearly 0.857 W/ $^{\circ}C$ for $T_C > 100^{\circ}C$


TO-3* (TO-204AA)

*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Current $I_C = 10$ mAdc	2N3715 2N3716	$V_{(BR)CEO}$	60 80	Vdc
Collector-Base Cutoff Current $V_{CB} = 80$ Vdc $V_{CB} = 100$ Vdc	2N3715 2N3716	I_{CBO}	10 10	μ Adc
Emitter-Base Breakdown Voltage $V_{EB} = 7.0$ Vdc		I_{EBO}	1.0	mAdc
Collector-Emitter Cutoff Current $V_{BE} = 1.5$ Vdc, $V_{CE} = 60$ Vdc $V_{BE} = 1.5$ Vdc, $V_{CE} = 80$ Vdc	2N3715 2N3716	I_{CEX}	1.0 1.0	mAdc

2N3715, 2N3716 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
Collector-Emitter Cutoff Current	I_{CES}		1.0	mA _{dc}
$V_{CE} = 60$ Vdc 2N3715			1.0	
$V_{CE} = 80$ Vdc 2N3716				

ON CHARACTERISTICS ⁽³⁾

Forward-Current Transfer Ratio $I_C = 1.0$ Adc, $V_{CE} = 2.0$ Vdc $I_C = 3.0$ Adc, $V_{CE} = 2.0$ Vdc $I_C = 5.0$ Adc, $V_{CE} = 2.0$ Vdc $I_C = 10$ Adc, $V_{CE} = 4.0$ Vdc	h_{FE}	50 30 10 5.0	150 120	
Collector-Emitter Saturation Voltage $I_C = 5.0$ Adc, $I_B = 0.5$ Adc $I_C = 10$ Adc, $I_B = 2.0$ Adc	$V_{CE(sat)}$		1.0 2.5	Vdc
Base-Emitter Saturation Voltage $I_C = 5.0$ Adc, $I_B = 0.5$ Adc $I_C = 10$ Adc, $I_B = 2.0$ Adc	$V_{BE(sat)}$		1.5 3.0	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short Circuit Forward Current Transfer Ratio $I_C = 0.5$ Adc, $V_{CE} = 10$ Vdc, $f = 100$ kHz – 1.0 MHz	$ h_{fe} $	4.0	20	
Forward Current Transfer Ratio $I_C = 0.5$ Adc, $V_{CE} = 10$ Vdc, $f = 1.0$ kHz	h_{fe}	30	300	
Output Capacitance $V_{CB} = 10$ Vdc, $I_E = 0$, $f = 1.0$ MHz	C_{obo}		500	pF

SAFE OPERATING AREA

DC Tests $T_C = +25^{\circ}\text{C}$, 1 Cycle, $t \geq 1.0$ s				
Test 1 $V_{CE} = 15$ Vdc, $I_C = 10$ Adc				
Test 2 $V_{CE} = 40$ Vdc, $I_C = 3.75$ Adc				
Test 3				
$V_{CE} = 55$ Vdc, $I_C = 0.9$ Adc	2N3715			
$V_{CE} = 65$ Vdc, $I_C = 0.9$ Adc	2N3716			

(3) Pulse Test: Pulse Width = 300 μ s, Duty Cycle $\leq 2.0\%$.