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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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



NPN Power Silicon Transistor

2N3715 & 2N3716



Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/408
- TO-3 (TO-204AA) Package



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 @ $T_A = 25\text{ }^\circ\text{C}$ ⁽¹⁾ @ $T_C = 25\text{ }^\circ\text{C}$	P_T	5.0		W
		117.0		W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$

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

Thermal Characteristics

Characteristics	Symbol	Maximum	Units
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$

Electrical Characteristics

OFF Characteristics		Symbol	Minimum	Maximum	Units
Collector - Emitter Breakdown Voltage $I_C = 10\text{ mAdc}$	2N3715	$V_{(BR)CEO}$	60	---	Vdc
	2N3716		80		
Collector - Base Cutoff Current $V_{CB} = 80\text{ Vdc}$ $V_{CB} = 100\text{ Vdc}$	2N3715	I_{CBO}	---	10	μAdc
	2N3716		10		
Emitter - Base Cutoff Current $V_{EB} = 7.0\text{ Vdc}$		I_{EBO}	---	1.0	mAdc
Collector - Emitter Cutoff Current $V_{BE} = -1.5\text{ Vdc}, V_{CE} = 60\text{ Vdc}$ $V_{BE} = -1.5\text{ Vdc}, V_{CE} = 80\text{ Vdc}$	2N3715	I_{CEX}	---	10	μAdc
	2N3716		10		
Collector - Emitter Cutoff Current $V_{CB} = 60\text{ Vdc}$ $V_{CB} = 80\text{ Vdc}$	2N3715	I_{CES}	---	10	μAdc
	2N3716		10		

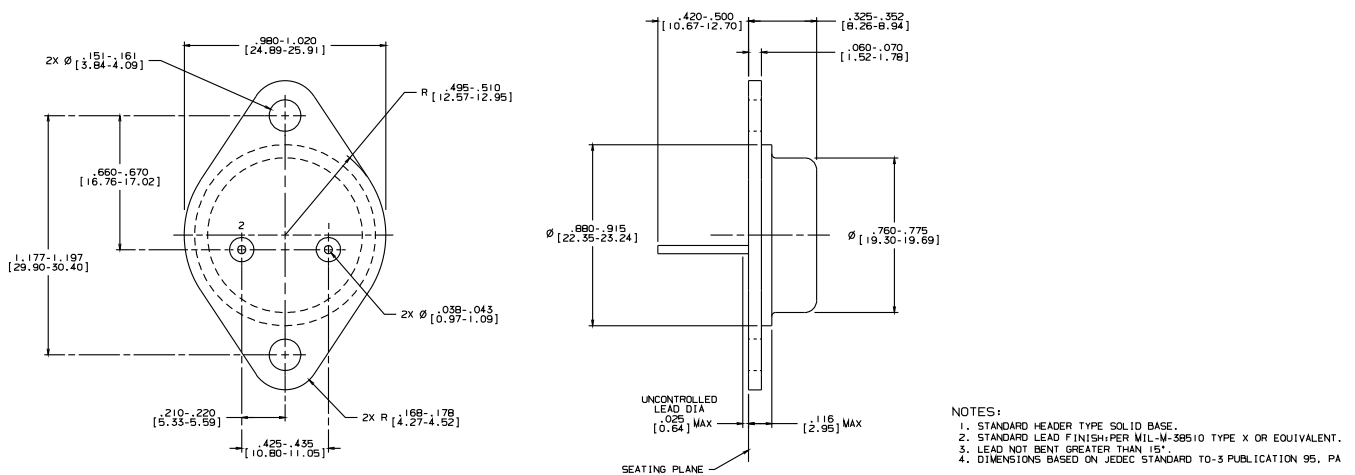


Electrical Characteristics -con't

ON Characteristics ⁽³⁾	Symbol	Mimumum	Maximum	Units
Forward Current Transfer Ratio $I_C = 1.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$ $I_C = 3.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$ $I_C = 5.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$ $I_C = 10.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$	H_{FE}	50 30 10 5	150 120 --- ---	
Collector - Emitter Saturation Voltage $I_C = 5.0 \text{ Adc}, I_B = 0.5 \text{ Adc}$ $I_C = 10.0 \text{ Adc}, I_B = 2.0 \text{ Adc}$	$V_{CE(sat)}$	--- ---	1.0 2.5	Vdc
Base - Emitter Saturation Voltage $I_C = 5.0 \text{ Adc}, I_B = 0.5 \text{ Adc}$ $I_C = 10.0 \text{ Adc}, I_B = 2.0 \text{ Adc}$	$V_{BE(sat)}$	--- ---	1.5 3.0	Vdc
DYNAMIC Characteristics				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 0.5 \text{ Adc}, V_{CE} = 10.0 \text{ Vdc}, f = 1.0 \text{ kHz}$	$ h_{fe} $	4.0	20.0	
Forward Current Transfer Ratio $I_C = 0.5 \text{ Adc}, V_{CE} = 10.0 \text{ Vdc}, f = 1.0 \text{ MHz}$	h_{fe}	30	300	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, f = 1.0 \text{ MHz}$	C_{obo}	---	500	pF
SAFE OPERATING AREA				
DC Tests: $T_C = +25 \text{ }^\circ\text{C}, 1 \text{ Cycle}, t = 1.0 \text{ s}$ Test 1: $V_{CE} = 15.0 \text{ Vdc}, I_C = 10 \text{ Adc}$ Test 2: $V_{CE} = 40.0 \text{ Vdc}, I_C = 3.75 \text{ Adc}$ Test 3: $V_{CE} = 55.0 \text{ Vdc}, I_C = 0.9 \text{ Adc}$ 2N3715 $V_{CE} = 65.0 \text{ Vdc}, I_C = 0.9 \text{ Adc}$ 2N3716				

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

Outline Drawing



Aeroflex / Metelics, Inc.

975 Stewart Drive,
Sunnyvale, CA 94085
Tel: (408) 737-8181
Fax: (408) 733-7645

Sales: 888-641-SEMI (7364)

Hi-Rel Components

9 Hampshire Street,
Lawrence, MA 01840
Tel: (603) 641-3800
Fax: (978) 683-3264

www.aeroflex.com/metelics-hirelcomponents

www.aeroflex.com/metelics metelics-sales@aeroflex.com

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