NEW

NPN High Power Silicon Transistors

2N6674 & 2N6675

AEROFLEX
A passion for performance.

Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/537
- TO-3 (TO-204AA) Package

Maximum Ratings

Ratings	Symbol	2N6674	2N6675	Units
Collector - Emitter Voltage	V_{CEO}	300	400	Vdc
Collector - Base Voltage	V_{CBO}	450	650	Vdc
Collector - Base Voltage	V_{CBX}	450	650	Vdc
Emitter - Base Voltage	V_{EBO}	7.0		Vdc
Base Current	I_B	5.0		Adc
Collector Current	I_C	15		Adc
Total Power Dissipation @ T_A = +25 °C (1) @ T_A = +25 °C	P_T	6.0(2) 175	3.0(3) 175	W W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200		°C

Thermal Characteristics

Characteristics	Symbol	Maximum	Units
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.0	°C/W

1) Derate linearly @ 1.0 mW/°C for T_A > +25°C
2) Derate linearly @ 34.2 mW/°C for T_A > +25°C
3) Derate linearly @ 17.1 mW/°C for T_A > +25°C

Electrical Characteristics

OFF Characteristics		Symbol	Mimimum	Maximum	Units
Collector - Emitter Breakdown Voltage I_C = 200 mAdc	2N6674 2N6675	$V_{(BR)CEO}$	300 400	- - -	Vdc
Collector - Emitter Cutoff Current V_{CE} = 450 Vdc, V_{BE} = -1.5 Vdc V_{CE} = 650 Vdc, V_{BE} = -1.5 Vdc	2N6674 2N6675	I_{CEX}	- - -	0.1 0.1	Adc
Emitter - Base Cutoff Current V_{EB} = 7.0 Vdc		I_{EBO}	- - -	2.0	mAdc
Collector - Base Cutoff Current V_{CB} = 450 Vdc	2N6674	I_{CBO}	- - -	1.0	mAdc

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METELICS

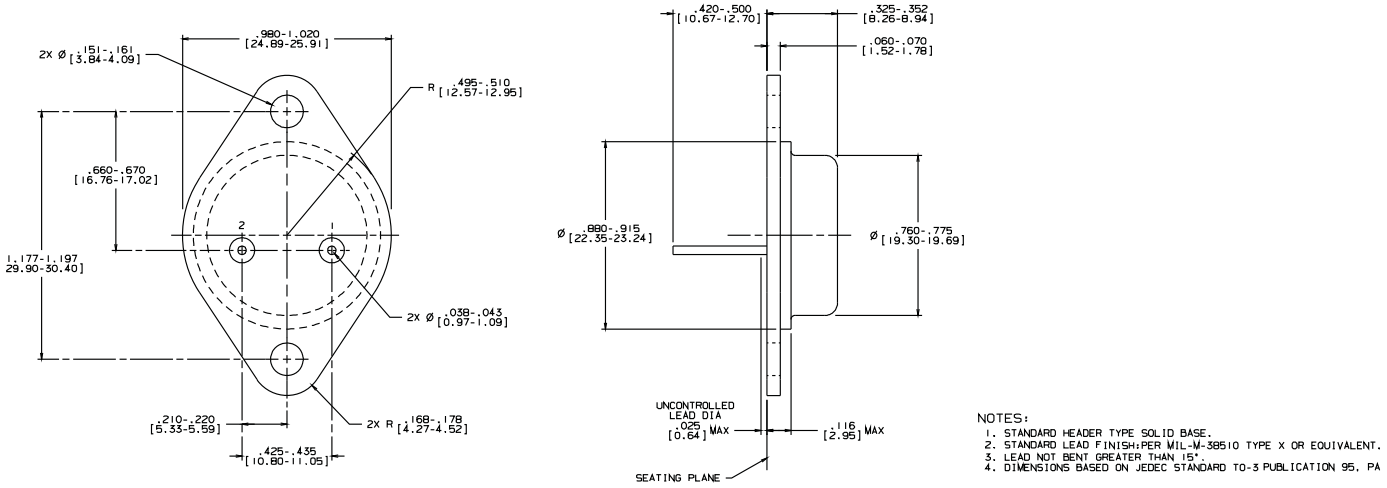
Revision Date: 9/8/2011
New Product

Electrical Characteristics -con't

ON Characteristics (2)	Symbol	Minimum	Maximum	Unit
Forward Current Transfer Ratio I_C = 1.0 Adc, V_{CE} = 3.0 Vdc I_C = 10.0 Adc, V_{CE} = 2.0 Vdc	H_{FE}	15 8	40 20	
Collector - Emitter Saturation Voltage I_C = 10.0 Adc, I_B = 2.0 Adc I_C = 15.0 Adc, I_B = 5.0 Adc	$V_{CE(sat)}$	- - - - - -	1.0 5.0	Vdc
Base - Emitter Saturation Voltage I_C = 1.0 Adc, I_B = 2.0 Vdc	$V_{BE(sat)}$	- - -	1.5	Vdc
DYNAMIC Characteristic				
Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 0.5 Adc, V_{CE} = 10 Vdc, f = 1.0 kHz	$\lvert h_{fe} \rvert$	3.0	10	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 100 kHz $\leq$ f $\leq$ 1.0 MHz	C_{obo}	150	500	pF
Switching Characteristic				
Delay Time Rise Time Storage Time Fall Time Cross-Over Time See Figure 3 of MIL-PRF-19500/537	t_d t_r t_s t_f t_c		0.1 0.6 2.5 0.5 0.5	µs µs µs µs µs
SAFE OPERATING AREA				
DC Tests: T_C = +25 °C, 1 Cycle, t = 1.0 s (See Figure 4 of MIL-PRF-19500/537)				
Test 1: V_{CE} = 11.7 Vdc, I_C = 15 Adc				
Test 2: V_{CE} = 30 Vdc, I_C = 5.9 Adc				
TEST 3: V_{CE} = 100 Vdc, I_C = 0.25 Adc				
TEST 4: V_{CE} = 25 Vdc, I_C = 7.0 Adc				
TEST 5: V_{CE} = 300 Vdc, I_C = 20 mAdc 2N6674 V_{CE} = 400 Vdc, I_C = 10 mAdc 2N6675				
Clamped Switching T_A = 25 °C, VCC = 15 Vdc, Load condition B, R_{BB1} = 5 Ω, R_{BB2} = 1.5 Ω, V_{BB2} = 5 Vdc, L = 50 µH, R of inductor = 0.05 Ω, RL = R of inductor. (See Figure 6 of MIL-PRF-19500/537) Clamp Voltage = 350, I_C = 10 Adc 2N6674 Clamp Voltage = 450, I_C = 10 Adc 2N6675				

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

Outline Drawing



NOTES:
1. STANDARD HEADER TYPE SOLID BASE.
2. STANDARD LEAD FINISH:PER MIL-M-38510 TYPE X OR EQUIVALENT.
3. LEAD NOT BENT GREATER THAN 15°.
4. DIMENSIONS BASED ON JEDEC STANDARD TO-3 PUBLICATION 95, PA

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AEROFLEX
A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

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