NPN Power Silicon Transistor

NEW

2N3055

Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/407
- TO-3 (TO-204AA) Package

Maximum Ratings

Ratings	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	70	Vdc
Collector - Base Voltage	V_{CBO}	100	Vdc
Emitter - Base Voltage	V_{EBO}	7.0	Vdc
Base Current	I_B	7.0	Adc
Collector Current	I_C	15	Adc
Total Power Dissipation @ $T_A = 25$ °C (1)	P_T	6.0	W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200	°C

1) Derate linearly @ 34.2 mW / °C for $T_A = 25$ °C

Thermal Characteristics

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

Electrical Characteristics

OFF Characteristics	Symbol	Mimimum	Maximum	Units
Collector - Emitter Breakdown Voltage $I_C = 200$ mAdc	$V_{(BR)CEO}$	70	- - -	Vdc
Collector - Emitter Breakdown Voltage $I_C = 200$ mAdc, $R_{BE} = 100\ \Omega$	$V_{(BR)CER}$	80	- - -	Vdc
Collector - Emitter Breakdown Voltage $V_{BE} = -1.5$ Vdc, $I_C = 200$ mAdc	$V_{(BR)CEX}$	90	- - -	Vdc
Collector - Emitter Cutoff Current $V_{CE} = 60$ Vdc	I_{CEO}	- - -	1.0	mAdc
Collector - Emitter Cutoff Current $V_{BE} = -1.5$ Vdc, $V_{CE} = 100$ Vdc	I_{CEX}	- - -	1.0	mAdc
Emitter - Base Cutoff Current $V_{EB} = 7.0$ Vdc	I_{EBO}	- - -	1.0	mAdc
ON Characteristics				
Forward Current Transfer Ratio	H_{FE}			
$I_C = 0.5$ Adc, $V_{CE} = 4.0$ Vdc		40	- - -	- - -
$I_C = 4.0$ Adc, $V_{CE} = 4.0$ Vdc		20	60	
$I_C = 10.0$ Adc, $V_{CE} = 4.0$ Vdc		5	- - -	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$			
$I_C = 4.0$ Adc, $I_B = 0.4$ Adc		- - -	0.75	Vdc
$I_C = 10.0$ Adc, $I_B = 3.3$ Adc		- - -	2.0	
Emitter - Base Saturation Voltage $I_C = 4.0$ Adc, $V_{CE} = 4.0$ Vdc	$V_{BE(sat)}$	- - -	1.4	Vdc

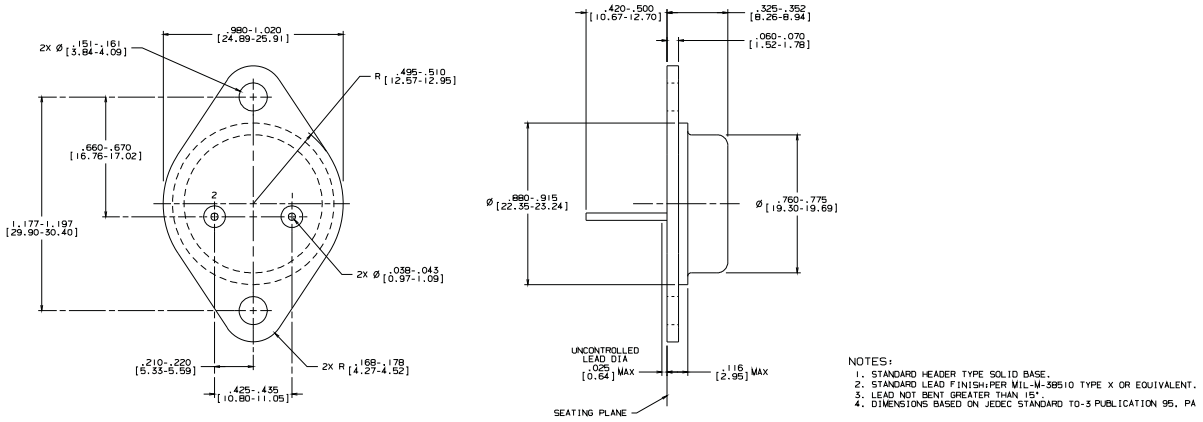
AEROFLEX METELICS

Revision Date: 8/26/2011
New Product

Electrical Characteristics -con't

DYNAMIC Characteristics	Symbol	Mimimum	Maximum	Units
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 1.0 Adc, V_{CE}= 4.0 Vdc, f = 100 kHz	$\lvert h_{fe} \rvert$	8.0	40.0	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 100 kHz $\leq$ f $\leq$ 1.0 MHz	C_{obo}	- - -	700	pF
SWITCHING Characteristics				
Tum-On Time V_{CC} = 30 Vdc; I_C = 4.0 Adc; I_{B1} = 0.4 Adc	t_{on}	- - -	6	µs
Tum-offTime V_{CC} = 30 Vdc; I_C = 4.0 Adc; I_{B1}= -I_{B2}= 0.4 Adc	t_{off}	- - -	12	µs
SAFE OPERATING AREA				
DC Tests:	T_C = +25 °C, I Cycle, t = 1.0 s			
Test 1:	V_{CE} = 7.8 Vdc, I_C = 15 Adc			
Test 2:	V_{CE} = 70.0 Vdc, I_C = 1.67 Adc			

Outline Drawing



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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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