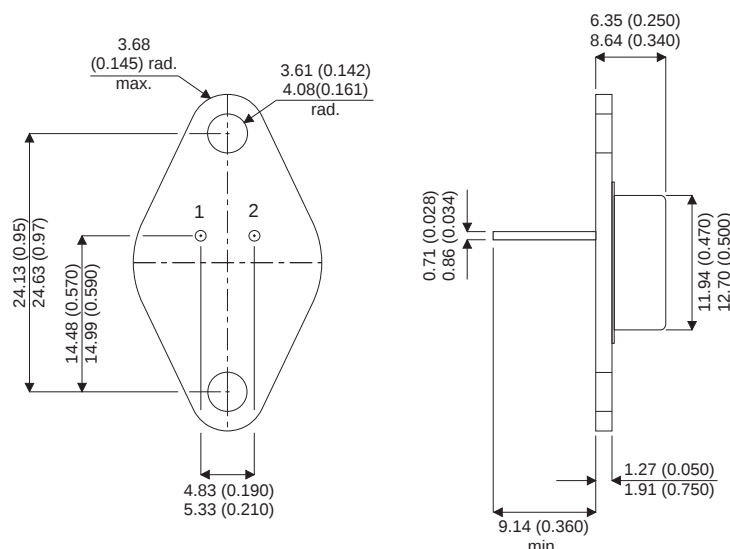


MECHANICAL DATA

Dimensions in mm (inches)



TO-66 (TO-213AA)

Pin 1 –Base

Pin 2 –Emitter

Case – Collector

COMPLEMENTARY SILICON MEDIUM POWER TRANSISTORS

COMPLEMENTARY TRANSISTORS 2N6316 (NPN) AND 2N6318 (PNP)

FEATURES

- Low Collector Emitter Saturation Voltage
- Low Leakage Current
- Excellent DC Current Gain

APPLICATIONS:

Designed for general purpose amplifier and switching applications.

ABSOLUTE MAXIMUM RATINGS($T_C = 25^\circ\text{C}$ unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage	80V
V_{CBO}	Collector – Base Voltage	80V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Collector Current	Continuous Peak
I_B	Base Current	2A
P_D	Total Dissipation @ $T_C = 25^\circ\text{C}$	90W
	Derate above 25°C	0.515W/ $^\circ\text{C}$
T_{STG}, T_J	Operating and Storage Junction Temperature Range	-65 to $+200^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance – Junction - Case	1.94 $^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS							
V _{CEO(sus)}	Collector – Emitter Sustaining Voltage *	I _C = 100mA	I _B = 0	80			V
I _{CEO}	Collector Cut–off Current	V _{CE} = 40V	I _B = 0			0.5	mA
I _{CEX}	Collector Cut–off Current	V _{CE} = 80V	V _{BE(off)} = 1.5V T _C = 150°C			0.25	
I _{CBO}	Collector Cut–off Current	V _{CB} = 80V	I _E = 0			0.25	
I _{EBO}	Emitter Cut–off Current	V _{EB} = 5V	I _C = 0			1.0	
ON CHARACTERISTICS *							
h _{FE}	DC Current Gain	V _{CE} = 4V	I _C = 0.5A	35			—
		V _{CE} = 4V	I _C = 2.5A	20		100	
		V _{CE} = 4V	I _C = 7.0A	4			
V _{CE(sat)}	Collector – Emitter Saturation Voltage	I _C = 4A	I _B = 0.4A			1.0	V
		I _C = 7A	I _B = 1.75A			2.0	
V _{BE(sat)}	Base – Emitter Saturation Voltage	I _C = 7A	I _B = 1.75A			2.5	
V _{BE(on)}	Base – Emitter On Voltage	V _{CE} = 4V	I _C = 2.5A			1.5	
DYNAMIC CHARACTERISTICS							
C _{ob}	Output Capacitance	V _{CB} = 10V f = 1MHz	I _E = 0			300	pF
f _T	Current Gain – Bandwidth Product	V _{CE} = 10V I _C = 0.25A f = 1MHz		4.0			MHz
h _{fe}	Small Signal Current Gain	V _{CE} = 4V f = 1kHz	I _C = 0.5A	20			—
DYNAMIC CHARACTERISTICS							
t _r	Rise Time	V _{CC} = 30V				0.7	μS
t _s	Storage Time	I _C = 2.5A				1.0	
t _f	Fall Time	I _{B1} = I _B =0.25A				0.8	

Notes

*Pulse test: $t_p = 300\mu s$, Duty Cycle = 2%

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