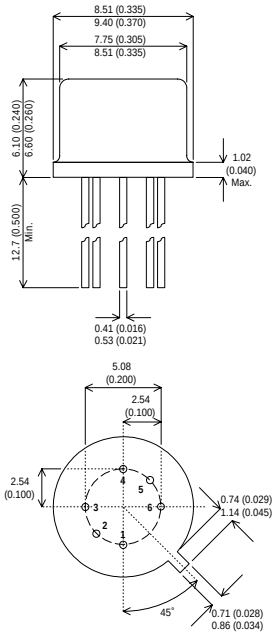
MD6003

MECHANICAL DATA
Dimensions in mm (inches)



TO77 PACKAGE

PIN 1 – Collector
PIN 2 – Base
PIN 3 – Emitter
PIN 4 – Emitter
PIN 5 – Base
PIN 6 – Collector

COMPLEMENTARY DUAL GENERAL PURPOSE TRANSISTOR NPN / PNP SILICON

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage		30V	
V_{CBO}	Collector – Base Voltage		50V	
V_{EBO}	Emitter – Base Voltage		5.0V	
I_C	Collector Current		500mA	
T_J , T_{stg}	Operating and Storage Junction Temperature Range		–65 to +200°C	
			Per Side	**Total Device**
P_D	Total Device Dissipation	@ T_A = 25°C	575mW	625mW
		Derate above 25°C	3.29mW/°C	3.57mW/°C
P_D	Total Device Dissipation	@ T_C = 25°C	1.8mW	2.5mW
		Derate above 25°C	10.3mW/°C	14.3mW/°C

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	OFF CHARACTERISTICS						
$V_{(BR)CEO}$*	Collector – Emitter Breakdown Voltage	I_C = 10mA	I_B = 0	30			V
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 10µA	I_E = 0	50			
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 10µA	I_C = 0	5.0			
I_{BEV}	Base Cutoff Current	V_{CE} = 30V	V_{BE} = 3.0V			50	
I_{CEV}	Collector Cut-off Current	V_{CB} = 30V	$V_{BE(off)}$ =3.0V			30	nA
I_{CBO}	Collector Cutoff Current	V_{CB} = 40V	I_E = 0			100	
	ON CHARACTERISTICS						
h_{FE}	DC Current Gain	I_C = 1.0mA	V_{CE} = 10V	40	70		—
		I_C = 150mA	V_{CE} = 10V	70	110		
		I_C = 300mA	V_{CE} = 10V	30	90		

	THERMAL CHARACTERISTICS	Per Side	Total Device
$R_{\theta JC}$	Thermal Resistance Junction to Case	97°CW	70°CW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient[1]	304°CW	280°CW
Coupling Factor			
	Junction to Ambient	84%	
	Junction to Class		44%

$R_{\theta JA}$ is measured with the device soldered into a typical printed circuit board.[1]

* Pulse Test: $t_p \leq 300\mu s$, $\delta \leq 2\%$.