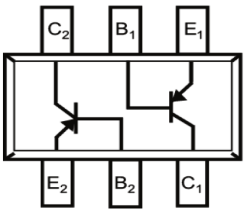
Dual PNP Small Signal
Surface Mount Transistor

Features:

- Epitaxial planar die construction.
- Ideal for low power amplification and switching.
- Ultra-small surface mount package
- Also available in lead free version.



SOT-363

Application:

- General switching and amplification

Maximum Rating @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current -Continuous	Ic	-0.2	A
Total Power Dissipation	P_{tot}	-0.2	W
Thermal Resistance Junction to Ambient	$R_{\theta jA}$	625	°C/W
Storage Temperature	T_{stg}	150	°C
Junction Temperature	T_j	-55 to -150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Conditions	Min.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA,I_E=0	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA,I_C=0	-5		V
Collector cut-off current	I_{CEX}	V_{CE}=-30V,$V_{EB(OFF)}$=-3V	-	-0.05	μA
Base cut-off current	I_{BL}	V_{CE}=-30V,$V_{EB(OFF)}$=-3V	-	-0.05	μA
DC current gain	h_{FE}	V_{CE} =-1V,I_C= -0.1mA V_{CE} =-1V,I_C =-1mA V_{CE} =-1V,I_C =-10mA V_{CE} =-1V,I_C =-50mA V_{CE} =-1V,I_C =-100mA	60 80 100 60 30	- - 300 - -	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C =-10mA,I_B =-1mA I_C =-50mA,I_B =-5mA	- -	-250 -400	mV mV
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C =-10mA,I_B =-1mA I_C =-50mA, I_B =-5mA	-650 -	-850 -950	mV mV

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Parameter	Symbol	Conditions	Min.	Max.	Unit
Output Capacitance	C_{obo}	I_E =0,V_{CB}=-5V; f =1MHz	-	4.5	pF
Input Capacitance	C_{ibo}	I_C=0, V_{EB} =-0.5V; f =1MHz	-	10	pF
Transition Frequency	f_T	I_C=-1mA,V_{CE}=-10V,f=1KHz	250	-	MHz
Noise Figure	NF	I_C=-0.1mA,V_{CE}=-20V,f=100MHz	-	4	dB
Delay Time	t_d	V_{CC}=-3V,$V_{BE(OFF)}$=0.5V I_C=-10mA I_{B1}=-I_{B2}=-1mA	-	35	ns
Rise Time	t_r		-	35	ns
Storage Time	t_S	V_{CC}=-3V,I_C=-10mA I_{B1}=-I_{B2}=-1mA	-	225	ns
Fall Time	t_f		-	75	ns

Typical Characteristics @ T_A = 25°C unless otherwise specified

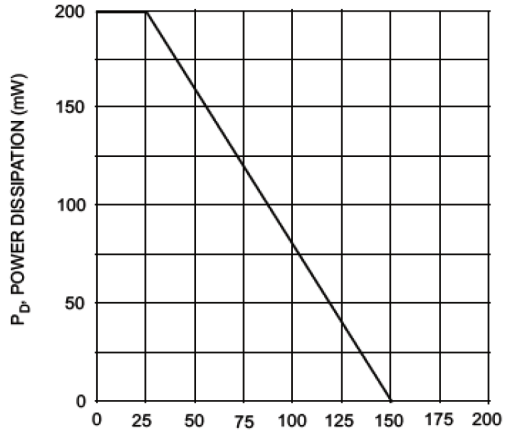

Fig. 1, Max Power Dissipation vs Ambient Temperature

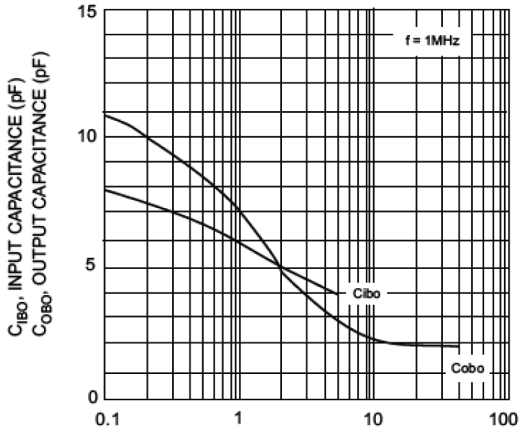

Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

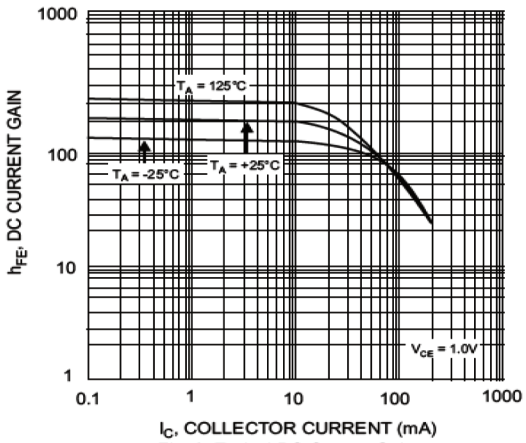

Fig. 3, Typical DC Current Gain vs Collector Current

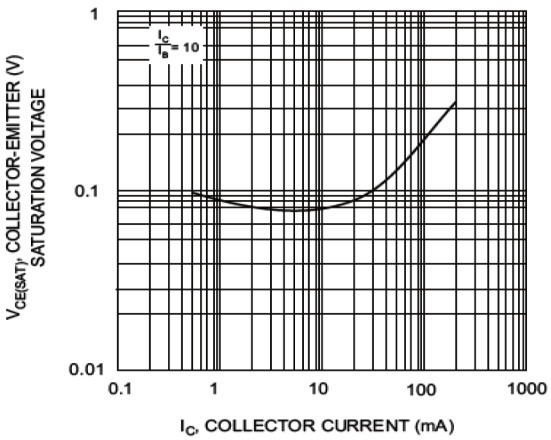

Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

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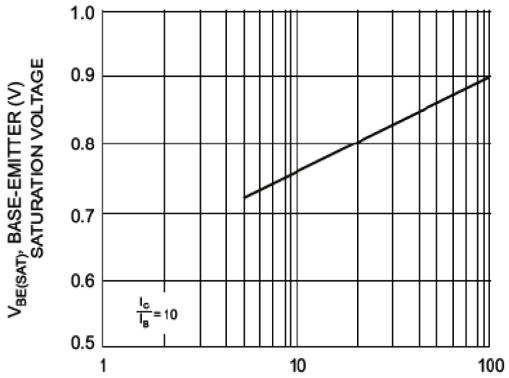
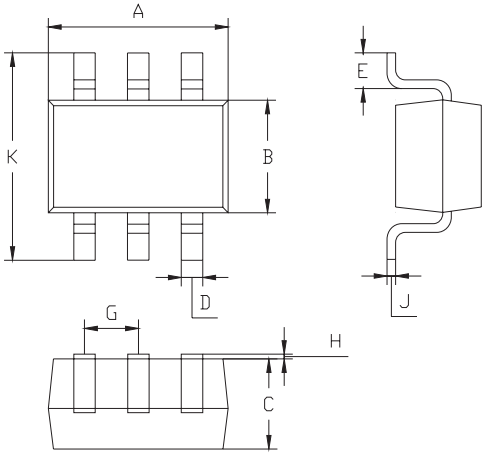


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

Package Outline

Plastic surface mounted package



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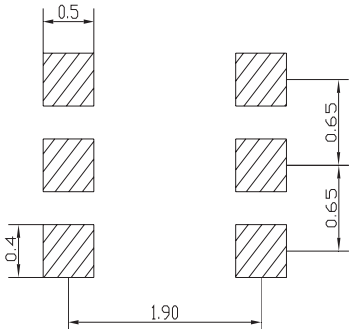
Dim.	**Min.**	**Max.**
A	1.8	2.2
B	1.15	1.35
C	1 Typical	
D	0.1	0.3
E	0.25	0.4
G	0.65 Typical	
H	0.02	0.1
J	0.1 Typical	
K	2.1	2.3
All Dimensions in mm		

Soldering Footprint



Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, Dual PNP, -40V, -200mA, SOT-363	MMDT3906-7-F