



MMDT3906

Preliminary

PNP EPITAXIAL SILICON TRANSISTOR

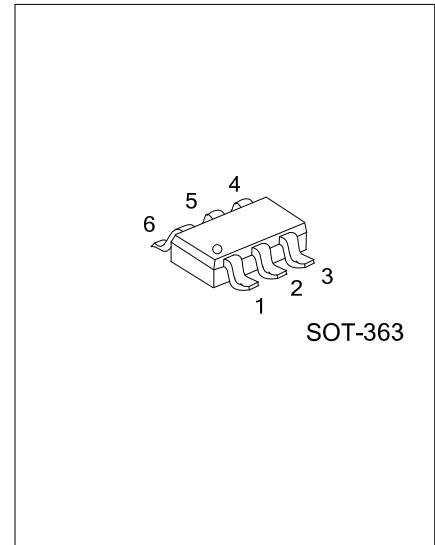
DUAL PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

DESCRIPTION

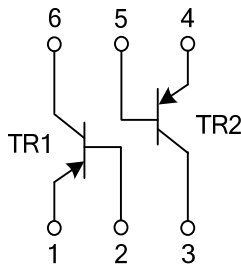
The UTC **MMDT3906** is a Dual PNP small signal surface mount transistor. It's suitable for low power amplification and switch.

FEATURES

- * Suitable for Low Power Amplification and Switching
- * Epitaxial Planar Die Construction
- * Extremely-Small Surface Mount Package



EQUIVALENT CIRCUIT

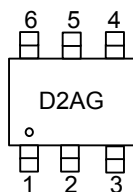


ORDERING INFORMATION

Ordering Number	Package	Pin Assignment						Packing
		1	2	3	4	5	6	
MMDT3906G-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel

MMDT3906G-AL6-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AL6: SOT-363 (3) G: Halogen Free and Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V _{EBO}	-5.0	V
Collector Current-Continuous	I _C	-200	mA
Power Dissipation	P _D	200	mW
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55~+150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	625	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF Characteristics (Note)						
Collector-Base Breakdown Voltage	V _{CBO}	I _C =-10μA, I _E =0	-40			V
Collector-Emitter Breakdown Voltage	V _{CEO}	I _C =-1mA, I _B =0	-40			V
Emitter-Base Breakdown Voltage	V _{EBO}	I _E =-10μA, I _C =0	-5			V
Collector Cutoff Current	I _{CEX}	V _{CE} =-30V, V _{EB} =-3V			-50	nA
Base Cutoff Current	I _{BL}	V _{CE} =-30V, V _{EB} =-3V			-50	nA
ON Characteristics (Note)						
DC Current Gain	h _{FE1}	V _{CE} =-1V, I _C =-0.1mA	60			
	h _{FE2}	V _{CE} =-1V, I _C =-1mA	80			
	h _{FE3}	V _{CE} =-1V, I _C =-10mA	100		300	
	h _{FE4}	V _{CE} =-1V, I _C =-50mA	60			
	h _{FE5}	V _{CE} =-1V, I _C =-100mA	30			
Collector-Emitter Saturation Voltage	V _{CE(SAT)1}	I _C =-10mA, I _B =-1mA			-0.25	V
	V _{CE(SAT)2}	I _C =-50mA, I _B =-5mA			-0.4	V
Base-Emitter Saturation Voltage	V _{BE(SAT)1}	I _C =-10mA, I _B =-1mA	-0.65		-0.85	V
	V _{BE(SAT)2}	I _C =-50mA, I _B =-5mA			-0.95	V
Small Signal Characteristics						
Output Capacitance	C _{OB}	V _{CB} =-5V, I _E =0, f=1MHz			4.5	pF
Current Gain-Bandwidth Product	f _T	V _{CE} =-20V, I _C =-10mA, f=100MHz	250			MHz
Switching Characteristics						
Turn on Time	t _{ON}	V _{CC} =-3V, V _{BE} =-0.5V, I _C =-10mA, I _{B1} =-1mA			70	ns
Turn off Time	t _{OFF}	I _{B1} =I _{B2} =-1mA			300	ns

Note: Pulse test: P_w ≤ 300μs, Duty Cycle ≤ 2.0%

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