



MMDT8050S

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

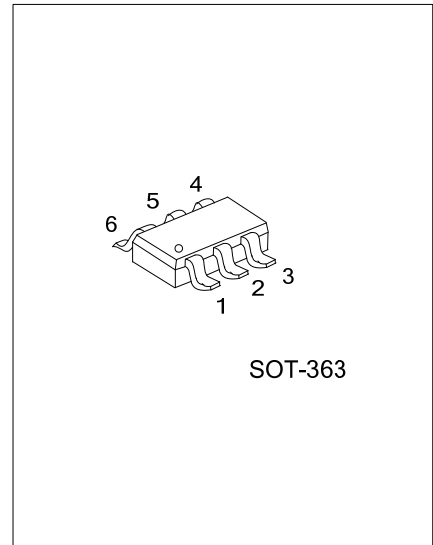
LOW VCESAT NPN EPITAXIAL PLANAR TRANSISTOR

DESCRIPTION

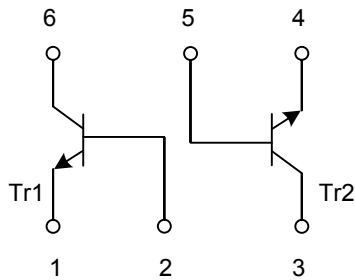
The UTC **MMDT8050S** is a Dual NPN epitaxial planar transistor. It has low $V_{CE(sat)}$ performance, and the transistor elements are independent, eliminating interference.

FEATURES

- * Low $V_{CE(sat)}$, $V_{CE(sat)}=40mV$ (typ.)@ $I_C / I_B = 50mA / 2.5mA$
- * Transistor elements are independent, eliminating interference.
- * Mounting cost and area can be cut in half.



EQUIVALENT CIRCUIT

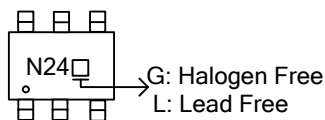


ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
MMDT8050SL-AL6-R	MMDT8050SG-AL6-R	SOT-363	Tape Reel

<p>MMDT8050SL-AL6-R</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p>	<p>(1) R: Tape Reel (2) AL6: SOT-363 (3) Halogen Free, L: Lead Free</p>
--	---

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}	25	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current (DC)	I _C	800	mA
Collector Current (Pulse)	I _{CP}	1.5 (Note 2)	A
Power Dissipation	P _D	200 (total) (Note 3)	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~+150	°C

Note: 1. 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.

2. Single pulse, P_W=10ms
3. 150mW per element must not be exceeded.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =100μA, I _E =0	40			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =2mA, I _B =0	25			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =100μA, I _C =0	6			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =30V, I _E =0			0.5	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =6V, I _C =0			0.5	μA
Collector-Emitter Saturation Voltage (Note 1)	V _{CE(sat)1}	I _C =50mA, I _B =2.5mA		40	60	mV
	V _{CE(sat)2}	I _C =400mA, I _B =20mA		0.2	0.3	V
	V _{CE(sat)3}	I _C =800mA, I _B =80mA		0.3	0.5	V
Base-Emitter Voltage	V _{BE(on)}	V _{CE} =1V, I _C =10mA			1	V
DC Current Gain	h _{FE1}	V _{CE} =1V, I _C =100mA	180		560	
	h _{FE2}	V _{CE} =1V, I _C =500mA	40			
	h _{FE3}	V _{CE} =2V, I _C =50mA	82			
Current Gain-Bandwidth Product	f _T	V _{CE} =5V, I _C =50mA, f=100MHz		150		MHz
Output Capacitance	C _{obo}	V _{CB} =10V, f=1MHz		15		pF

Note: 1. Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.