



MMDT8150

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

LOW $V_{CE(SAT)}$ NPN EPITAXIAL PLANAR TRANSISTOR

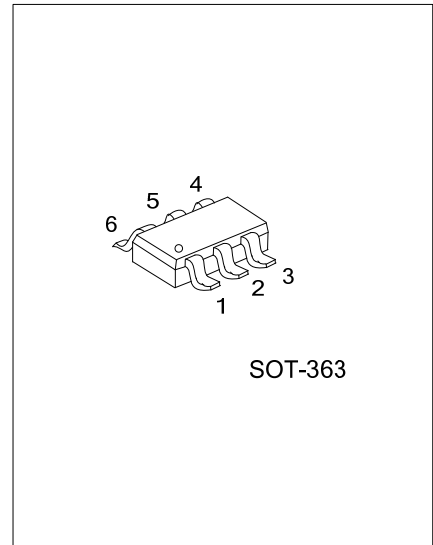
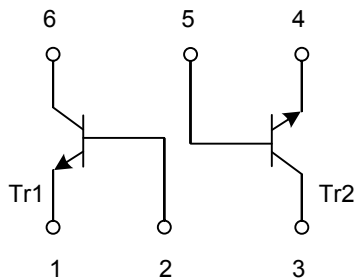
DESCRIPTION

The UTC **MMDT8150** is a Dual NPN epitaxial planar transistor. It has low $V_{CE(SAT)}$ performance and the transistor elements are independent to eliminate interference.

FEATURES

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

EQUIVALENT CIRCUIT

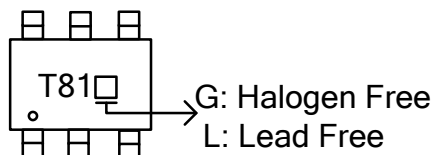


ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
MMDT8150L-AL6-R	MMDT8150G-AL6-R	SOT-363	Tape Reel

<p>MMDT8150L-AL6-R</p>	<p>(1) R: Tape Reel (2) AL6: SOT-363 (3) Halogen Free, L: Lead Free</p>
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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}	32	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	32			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%

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