



MMDT5551

DUAL TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR

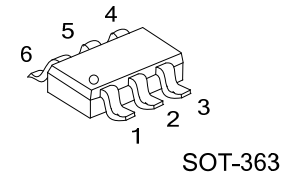
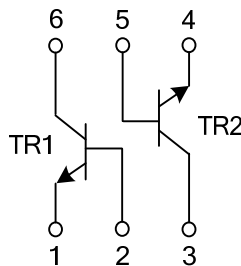
DESCRIPTION

The UTC **MMDT5551** is a high voltage fast-switching dual NPN transistor. It is characterized with high breakdown voltage, high current gain and high switching speed.

FEATURES

- * High Collector-Emitter Voltage: $V_{CE0}=160V$
- * High current gain

EQUIVALENT CIRCUIT

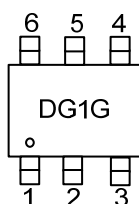


ORDERING INFORMATION

Ordering Number	Package	Pin Assignment						Packing
		1	2	3	4	5	6	
MMDT5551G-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel

MMDT5551G-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 ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V_{CBO}	180	V
Collector -Emitter Voltage	V_{CEO}	160	V
Emitter -Base Voltage	V_{EBO}	6	V
DC Collector Current	I_C	600	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

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.

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = 100\mu\text{A}$, $I_E = 0$	180			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 1\text{mA}$, $I_B = 0$	160			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0$	6			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 120\text{V}$, $I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 4\text{V}$, $I_C = 0$			50	nA
DC Current Gain(note)	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	80			
		$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	80	160	400	
		$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.15	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$			0.2	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			1	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$			1	
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	100		300	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$			6.0	pF
Noise Figure	NF	$I_C = 0.25\text{mA}$, $V_{CE} = 5\text{V}$ $R_S = 1\text{k}\Omega$, $f = 10\text{Hz} \sim 15.7\text{kHz}$			8	dB

Note: Pulse test: $P_W < 300\mu\text{s}$, Duty Cycle $< 2\%$

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