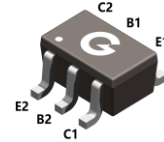
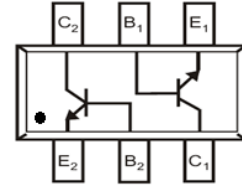


Features

- Epitaxial planar die construction
- Two internal isolated NPN transistors in one package
- Ultra-small surface mount package
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



SOT-363

Mechanical Data

- Case: SOT-363
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TMMDT4401	SOT-363	3000 pcs / Tape & Reel	K2X

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Current (Continuous)	I _C	0.6	A
Collector Current (Peak)	I _{CM}	1.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P _D	0.2	W
Thermal Resistance Junction-to-Air *1	R _{θJA}	625	°C/W
Thermal Resistance Junction-to-Air *2	R _{θJA}	260	°C/W
Thermal Resistance Junction-to-Case *2	R _{θJC}	200	°C/W
Thermal Resistance Junction-to-Lead *2	R _{θJL}	220	°C/W
Operating Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 35\text{V}, I_E = 0$	-	-	0.1	μA
Collector Cut-off Current	I_{CEX}	$V_{CE} = 35\text{V}, V_{EB(OFF)} = 0.4\text{V}$	-	-	0.1	μA
Base Cut-off Current	I_{BL}	$V_{CE} = 35\text{V}, V_{EB(OFF)} = 0.4\text{V}$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}, I_C = 0.1\text{mA}$	20	-	-	-
		$V_{CE} = 1\text{V}, I_C = 1\text{mA}$	40	-	-	-
		$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	80	-	-	-
		$V_{CE} = 1\text{V}, I_C = 150\text{mA}$	100	-	300	-
		$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	-	-	0.4	V
		$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	0.75	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	0.75	-	0.95	V
		$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	1.2	V
Transition Frequency	f_T	$I_C = 20\text{mA}, V_{CE} = 10\text{V}$ $f = 100\text{MHz}$	250	-	-	MHz
Collector Output Capacitance	C_{OBO}	$V_{CB} = 5\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	6.5	pF
Delay Time	t_d	$V_{CC} = 30\text{V}, V_{BE(OFF)} = 2\text{V}$	-	-	15	ns
Rise Time	t_r	$I_C = 150\text{mA}, I_{B1} = 15\text{mA}$	-	-	20	ns
Storage Time	t_s	$V_{CC} = 30\text{V}, I_C = 150\text{mA}$	-	-	225	ns
Fall Time	t_f	$I_{B1} = I_{B2} = 15\text{mA}$	-	-	30	ns

Notes:

- Device mounted on a minimum recommended pad layout with 1oz copper that is on a single-sided 1.6mm FR4 PCB; the device is measured under still air conditions whilst operating in a steady-state.
- The data tested by surface mounted on a 25.4mm * 25.4mm * 1mm FR4-epoxy P.C.B

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

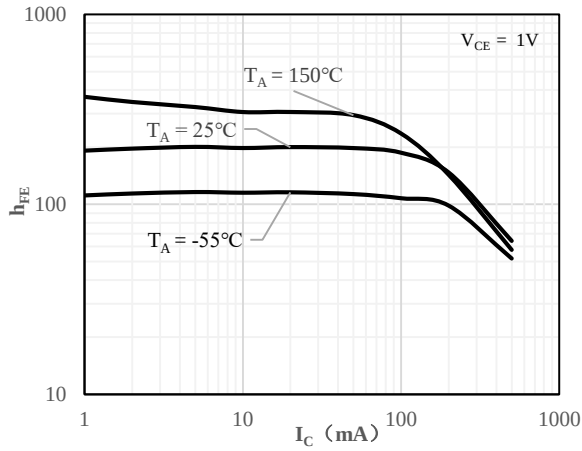


Fig 1 h_{FE} vs. I_C

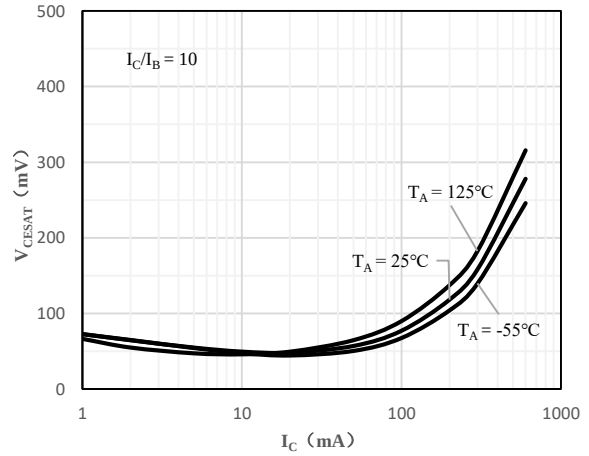


Fig 2 $V_{CE(sat)}$ vs. I_C

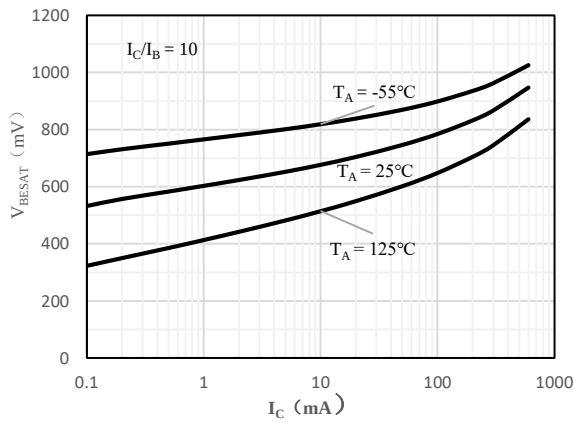


Fig 3 $V_{BE(sat)}$ vs. I_C

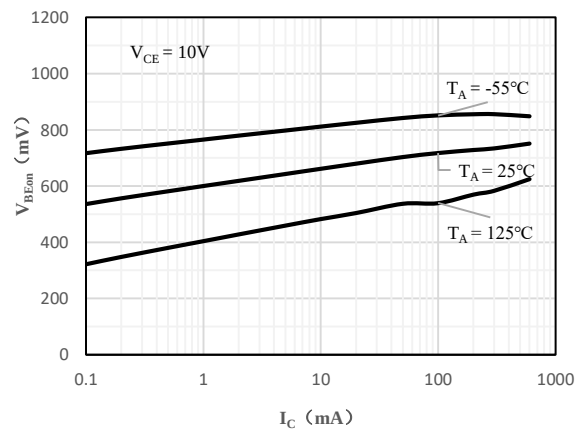
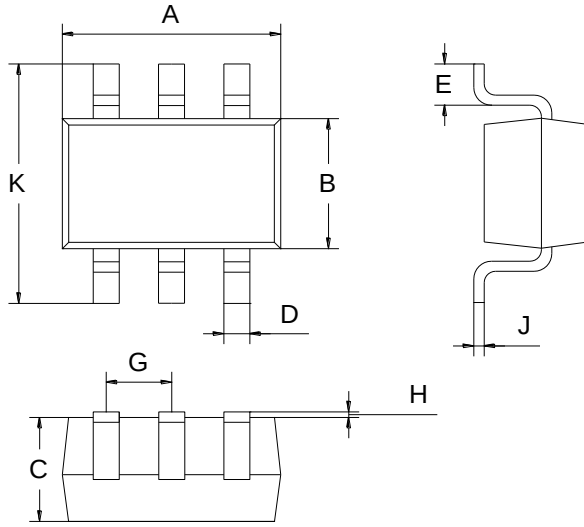


Fig 4 $V_{BE(on)}$ vs. I_C

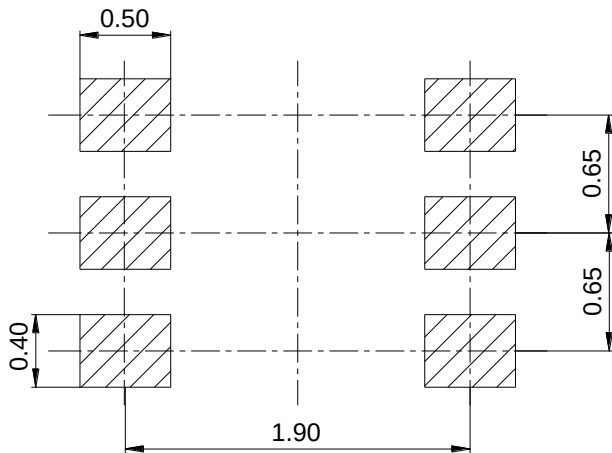
Package Outline Dimensions (Unit: mm)



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-363



IMPORTANT NOTICE

Changzhou Galaxy Century Microelectronics (GME) reserves the right to make changes without further notice to any product information (copyrighted) herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.