

Kingtronics®

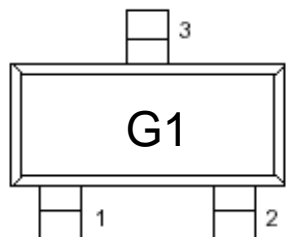
CDT5551-ME

TRANSISTOR

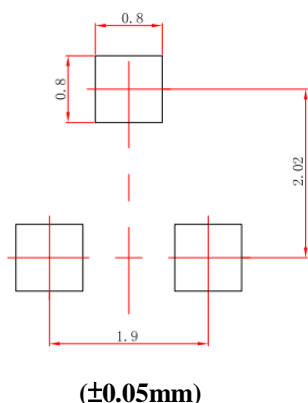
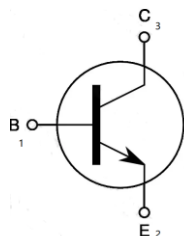
Marking:G1

Suggested Layout

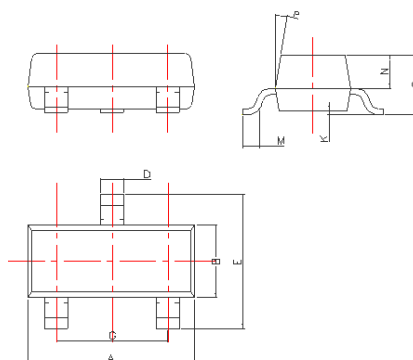
SOT-23



Top view



Dimension



DIM	Millimeters
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00-0.10
M	0.20 min
N	0.60±0.10
P	7±2°

MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	160	Vdc
Collector-Base Voltage	V_{CBO}	180	Vdc
Emitter-Base Voltage	V_{EBO}	6.0	Vdc
Collector Current	I_C	600	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total power dissipation ($T_{amb}=25°C$;note1)	P_D	225	mW
Junction and Storage Temperature	$T_{j, T_{stg}}$	150 -65~150	°C
Operating ambient temperature	T_{amb}	-65~150	°C
Thermal resistance from junction to ambient	$R_{th j-a}$	556	K/W

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Max	Unit
collector cut-off current	I_{CBO}	$V_{CB}=120Vdc, I_E=0$	--	50	nA
emitter cut-off current	I_{EBO}	$V_{EB}=4.0Vdc, I_C=0$	--	50	nA
CollectorEmitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1.0mAdc, I_B=0$	160	--	Vdc
CollectorBase Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu Adc, I_E=0$	180	--	Vdc
EmitterBase Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu Adc, I_C=0$	6.0	--	Vdc
DC current gain	h_{FE}	$I_C=1.0mAdc, V_{CE}=5.0Vdc$	80	--	--
		$I_C=10mAdc, V_{CE}=5.0Vdc$	100	300	--
		$I_C=50mAdc, V_{CE}=5.0Vdc$	30	--	--

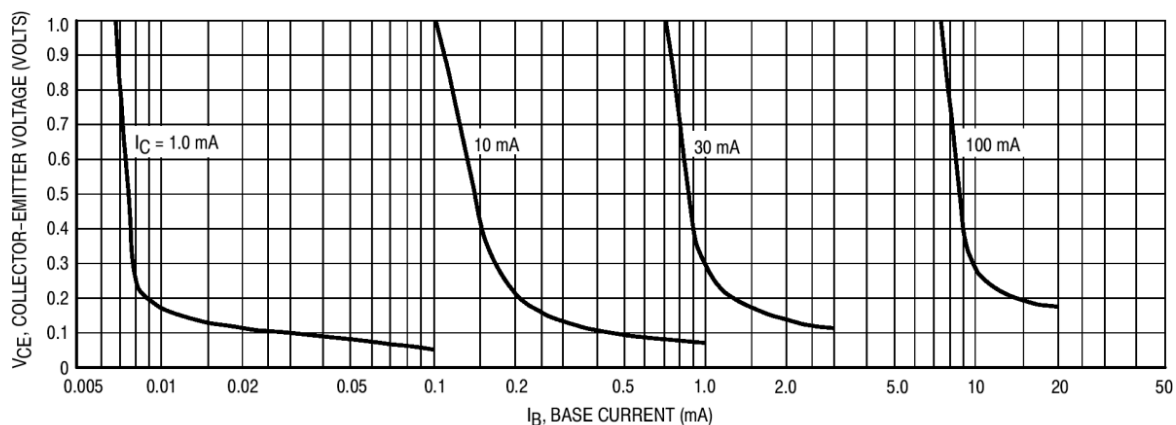
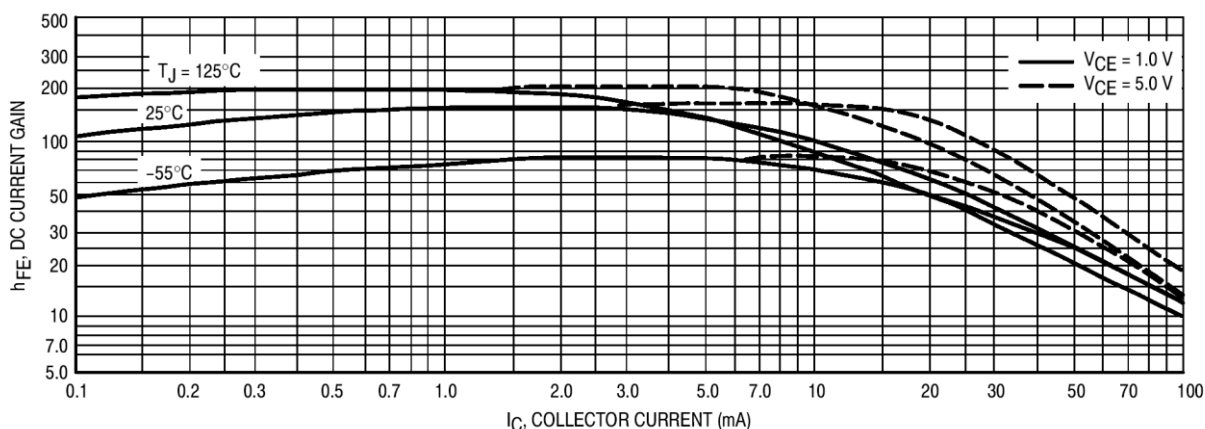
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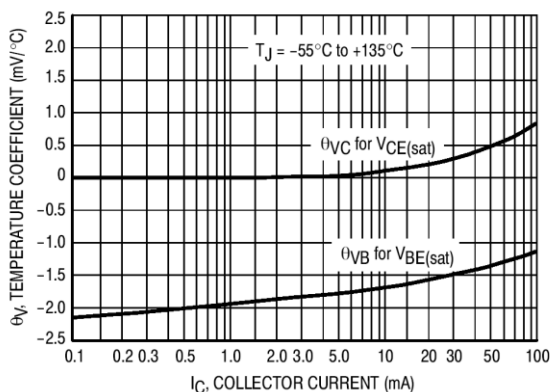
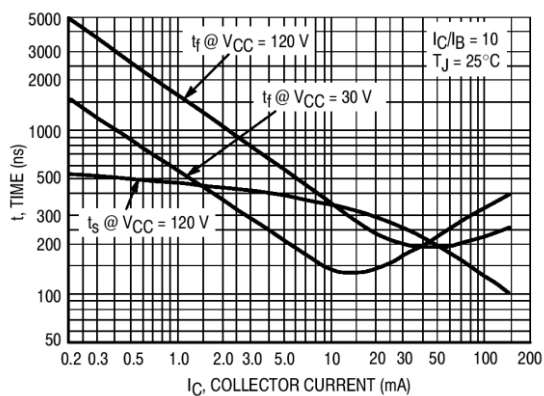
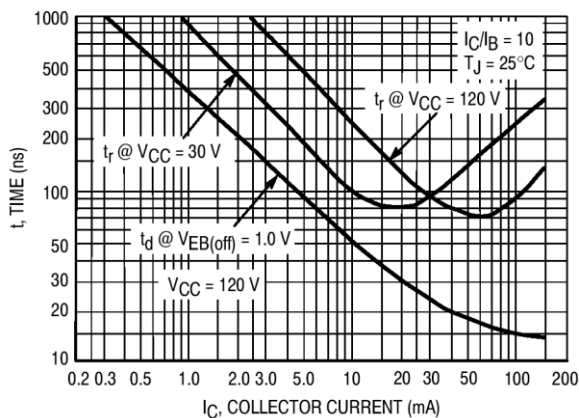
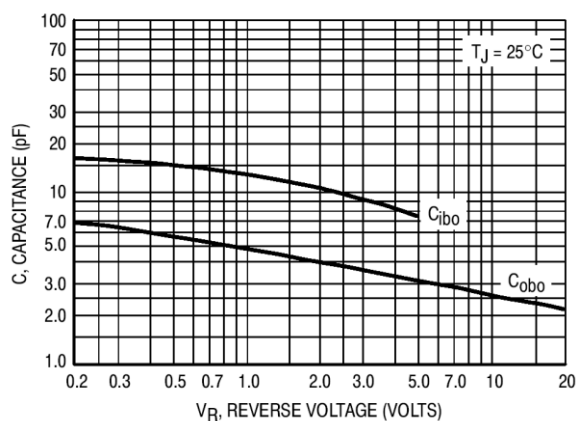
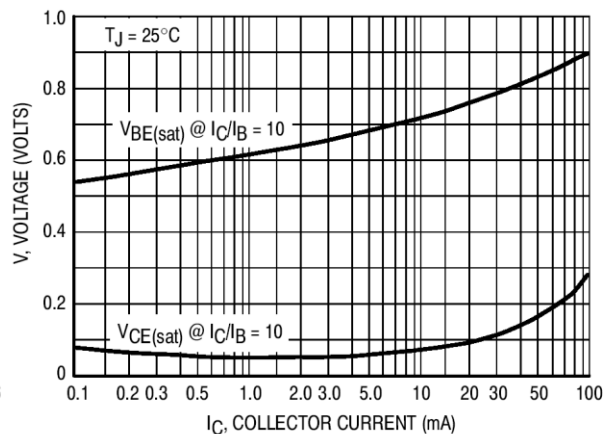
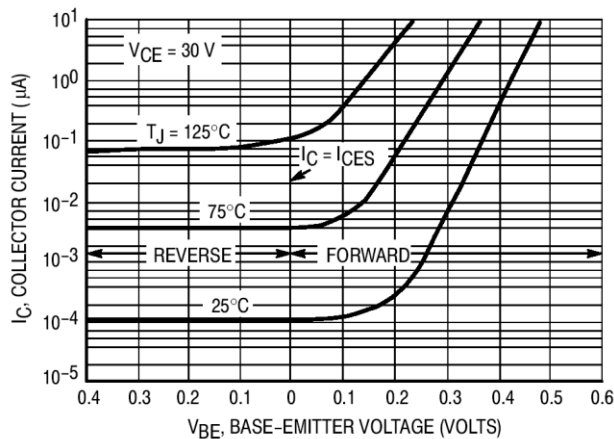
CDT5551-ME

collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA_{dc}, I_B=1.0mA_{dc}$	--	0.15	Vdc
		$I_C=50mA_{dc}, I_B=5.0mA_{dc}$	--	0.2	Vdc
BaseEmitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA_{dc}, I_B=1.0mA_{dc}$	--	1.0	Vdc
		$I_C=50mA_{dc}, I_B=5.0mA_{dc}$	--	1.0	Vdc
Transition Frequency	f_T	$V_{CE}=10V, I_E=10mA, f=100MHz$	100	300	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	--	6	pF
Input Capacitance	C_{ib}	$V_{BE}=0.5V_{dc}, I_C=0, f=1.0MHz$	--	20	pF
Small-Signal Current Gain	h_{fe}	$V_{CE}=10V_{dc}, I_C=1.0mA_{dc}, f=1.0kHz$	50	200	--
Noise Figure	NF	$V_{CE}=5.0V_{dc}, I_C=250\mu A_{dc}, R_g=1.0k\Omega, f=10Hz\sim 15.7KHz$	--	8	dB

Typical Performance Characteristics



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Note: Specifications are subject to change without notice.