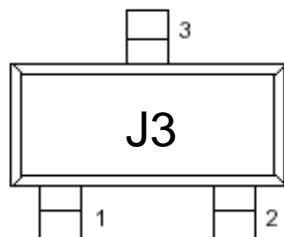


**Kingtronics**®**CDT9013-ME****TRANSISTOR**

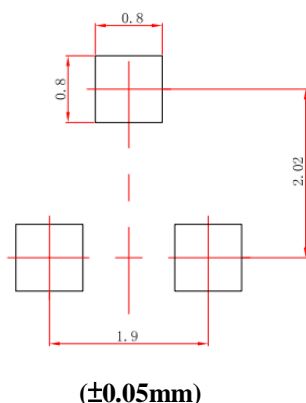
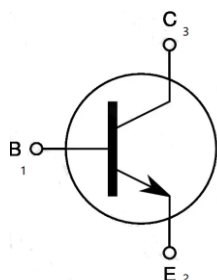
Marking: J3

Suggested Layout

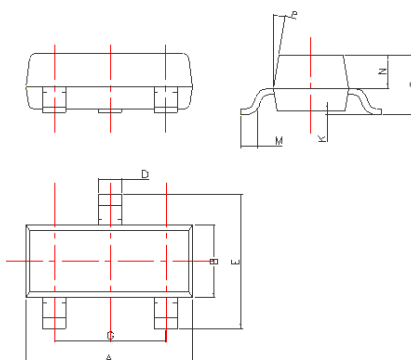
SOT-23



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	$V_{CEO}$	40	Vdc
Collector-Base Voltage	$V_{CBO}$	30	Vdc
Emitter-Base Voltage	$V_{EBO}$	5.0	Vdc
Collector Current - Continuous	$I_C$	500	mAdc
Base Current	$I_B$	50	mAdc

**THERMAL CHARACTERISTICS**

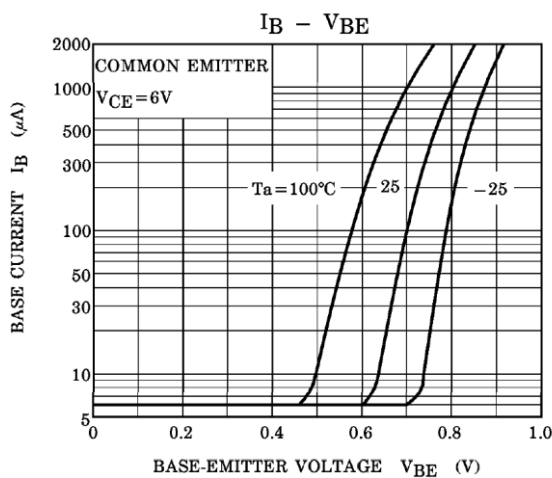
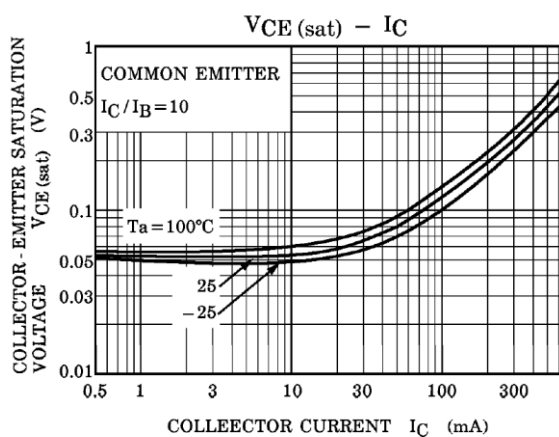
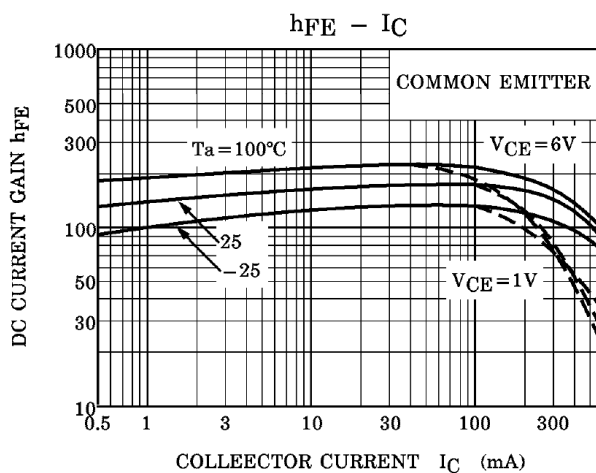
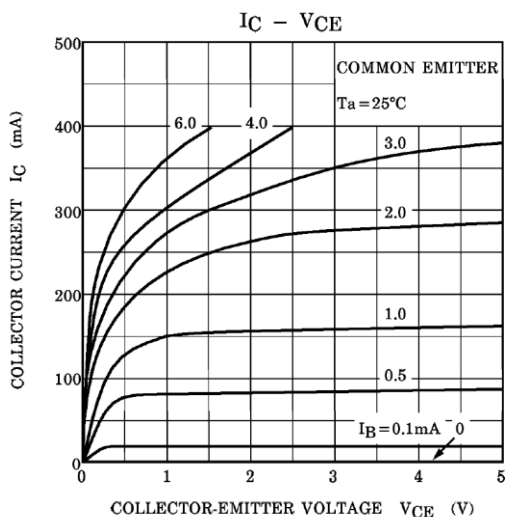
Characteristic	Symbol	Max	Unit
Collector Power Dissipation	$P_c$	300	mW
Junction and Storage Temperature	$T_j$ , $T_{stg}$	150, -55 ~150	°C

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

Characteristic	Symbol	Test Condition	Min	Type	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=35V, I_E=0$	--	--	0.1	μA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	--	--	0.1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1.0mA$	30	--	--	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	40	--	--	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5	--	--	V
DC Current Gain	$h_{FE}(1)$	$V_{CE}=1V, I_C=100mA$	200	--	350	--
	$h_{FE}(2)$	$V_{CE}=6V, I_C=400mA$	25	--	--	--
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$	--	--	0.6	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=1V, I_C=100mA$	--	0.8	1.0	V
Transition Frequency	$f_T$	$V_{CE}=6V, I_C=20mA$	150	300	--	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=6V, I_E=0,$ $f=1MHz$	--	7.0	10	pF

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## Typical Performance Characteristics



Note: Specifications are subject to change without notice.