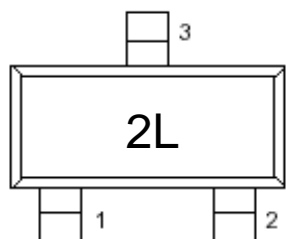


TRANSISTOR

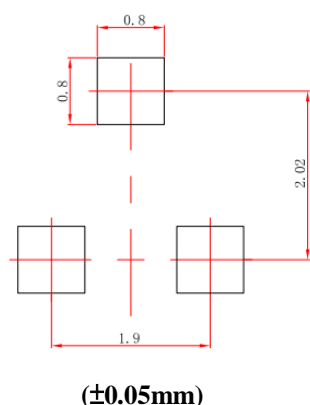
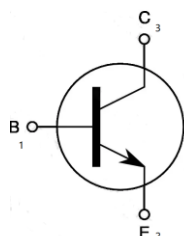
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Suggested Layout

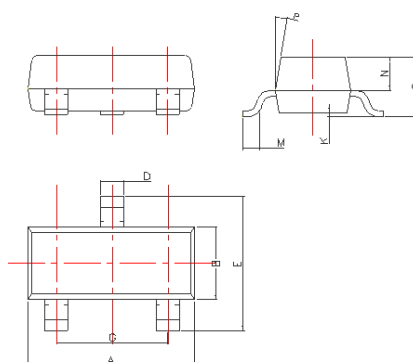
SOT-23



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}	-150	Vdc
Collector-Base Voltage	V_{CBO}	-160	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current - Continuous	I_C	-500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total power dissipation	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
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1.0 mAdc, I_B = 0$	-150	--	Vdc
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu Adc, I_E = 0$	-160	--	Vdc
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu Adc, I_C = 0$	-5.0	--	Vdc
DC current gain	h_{FE}	$I_C = -1.0 mAdc, V_{CE} = -5.0Vdc$	50	--	--
		$I_C = -10 mAdc, V_{CE} = -5.0Vdc$	100	300	--
		$I_C = -50 mAdc, V_{CE} = -5.0Vdc$	50	--	--
Collector-emitter saturation voltage	V_{CEsat}	$I_C = -10 mAdc, I_B = -1.0 mAdc$	--	-0.2	Vdc
		$I_C = -50 mAdc, I_B = -5.0 mAdc$	--	-0.5	Vdc

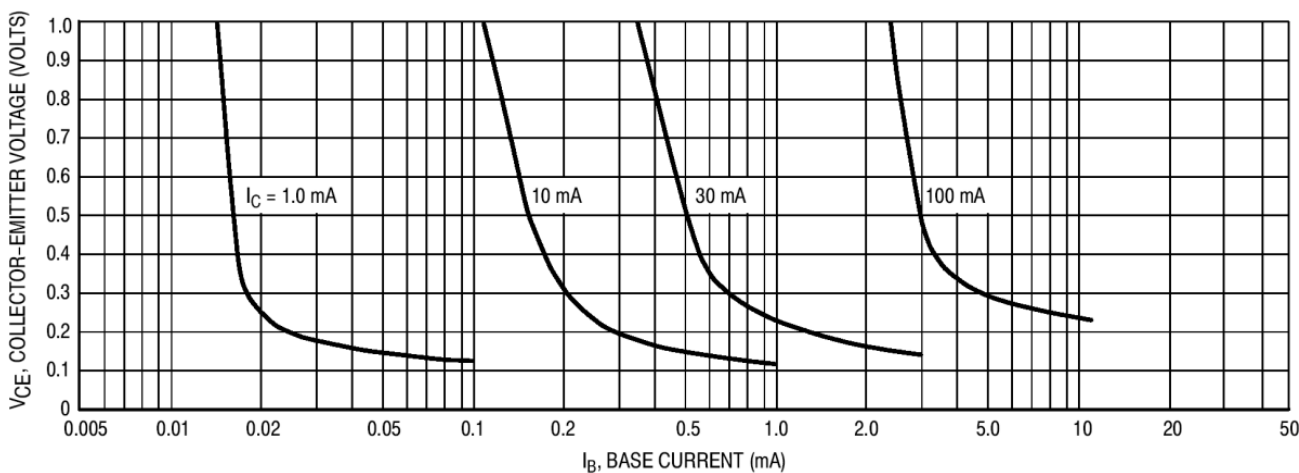
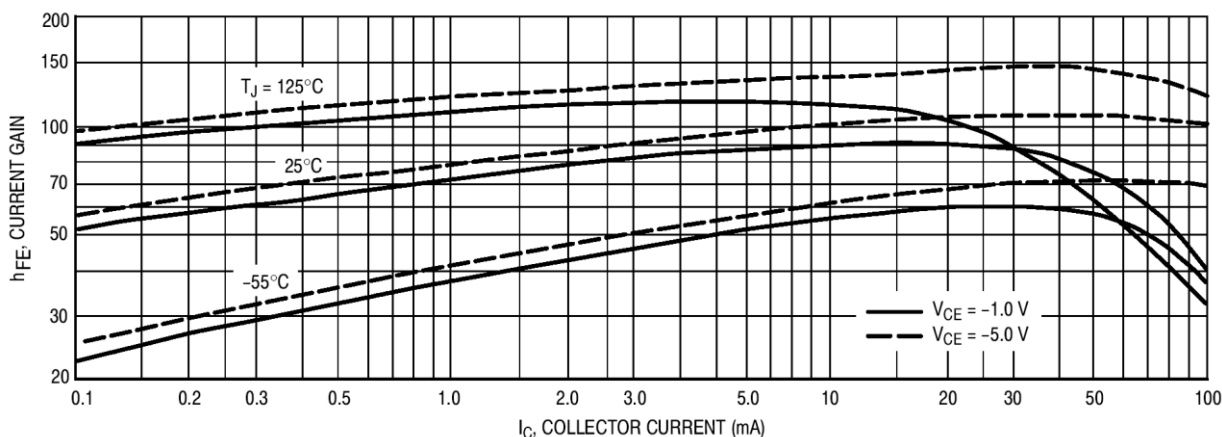
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CDT5401-ME

Base-Emitter 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
Small-Signal Current Gain	h_{fe}	$V_{CE} = -10V_{dc}, I_C = -1.0mA_{dc}, f = 1.0KHz$	40	200	--
Noise Figure	NF	$V_{CE} = -5.0V_{dc}, I_C = -250\mu A_{dc}, R_g = 1.0k\Omega, f = 10Hz \sim 15.7KHz$	--	8.0	dB

1. FR-5=1.0x0.75x0.062in.
2. Alumina=0.4x0.3x0.024in, 99.5% alumina.
3. Pulse Width $\leq 300\mu S$; Duty Cycle $\leq 2.0\%$

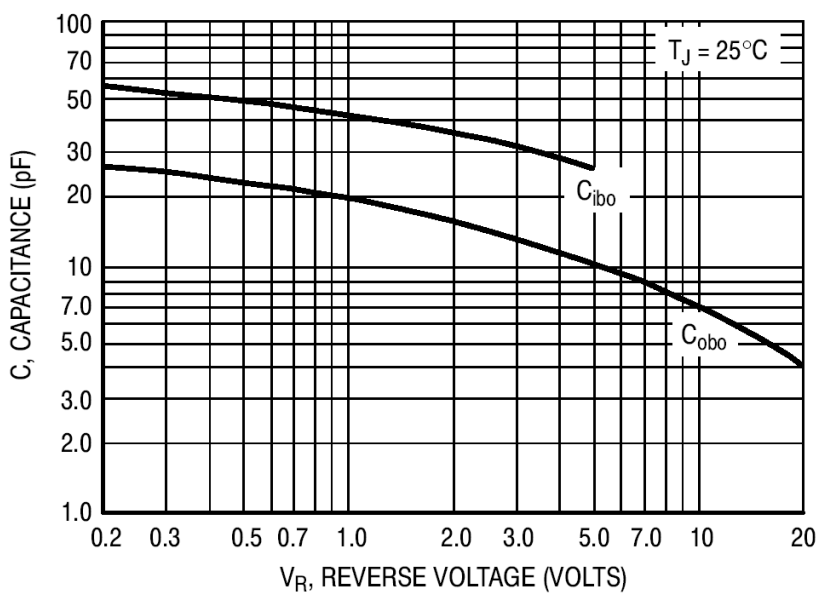
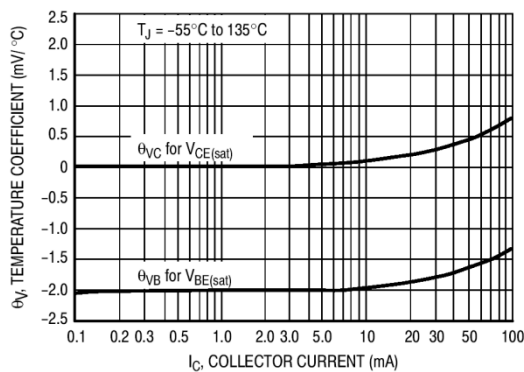
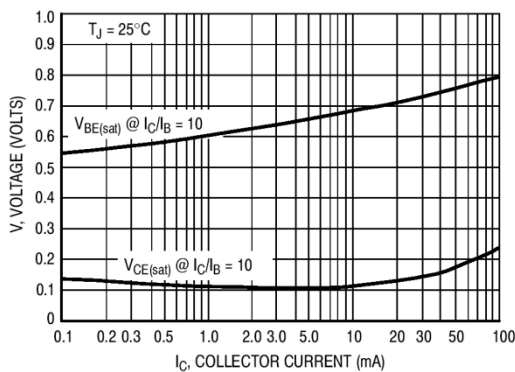
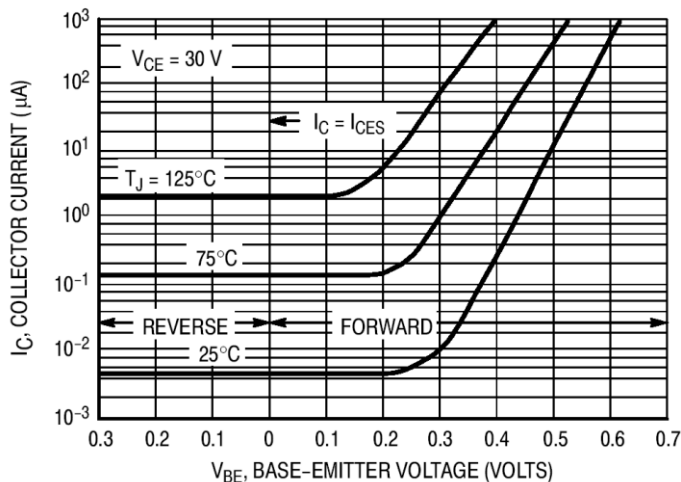
Typical Performance Characteristics



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Note: Specifications are subject to change without notice.

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