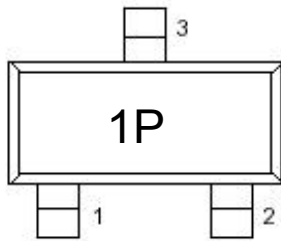


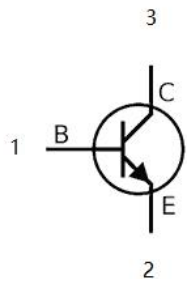
CDS2222A-ME

SWITCHING TRANSISTOR

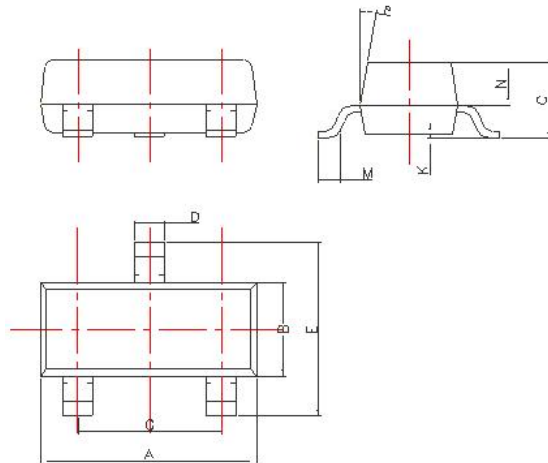
Marking: 1P



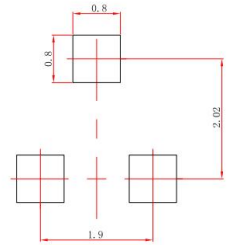
Top view



SOT-23 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°

SOT-23
Suggested
Layout

mm(±0.05mm)

MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CEO}	40	Vdc
Collector-Base Voltage	V _{CBO}	75	Vdc
Emitter-Base Voltage	V _{EBO}	6	Vdc
Collector Current - Continuous	I _C	600	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (1) (T _A =25°C)	P _D	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance Junction to Ambient	R _{JA}	556	°C/W
Total Device Dissipation Alumina Substrate, (2) T _A =25°C	P _D	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance Junction to Ambient	R _{JA}	417	°C/W
Junction and Storage Temperature	T _J , T _{stg}	150, -55~150	°C

CDS2222A-ME

SWITCHING TRANSISTOR

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

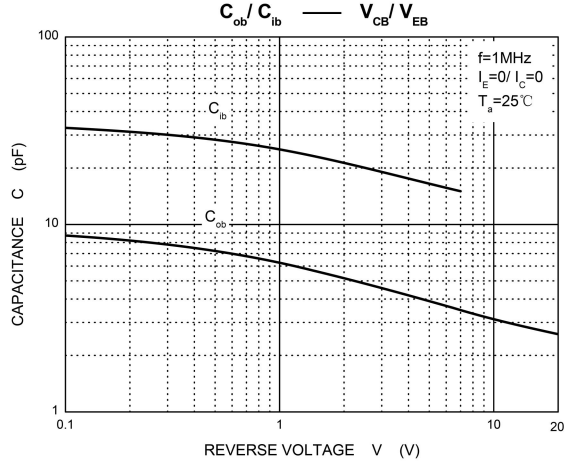
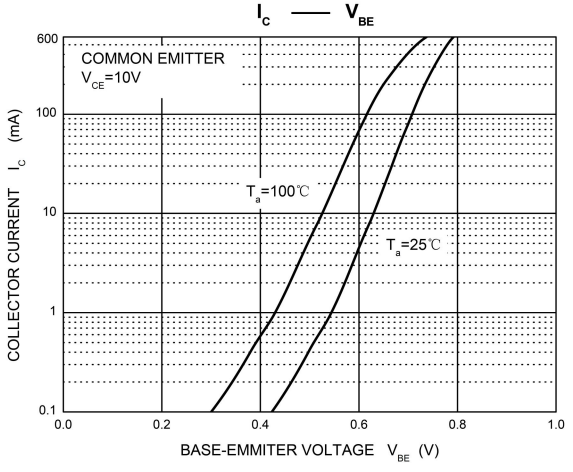
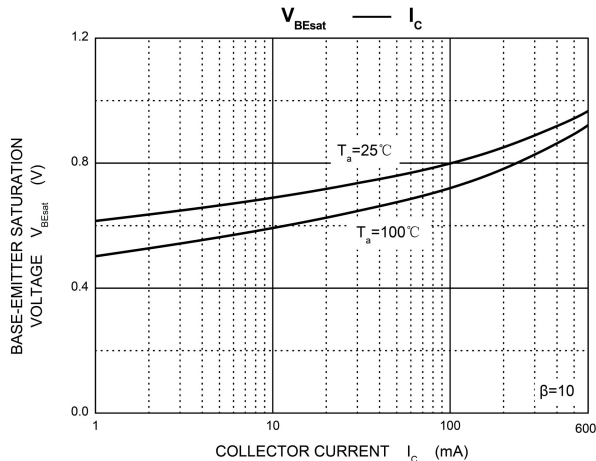
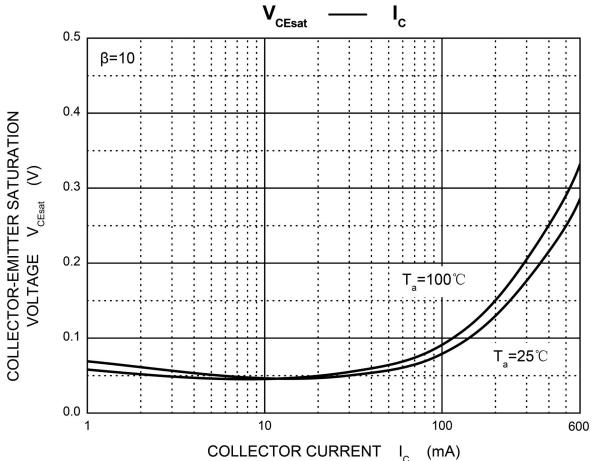
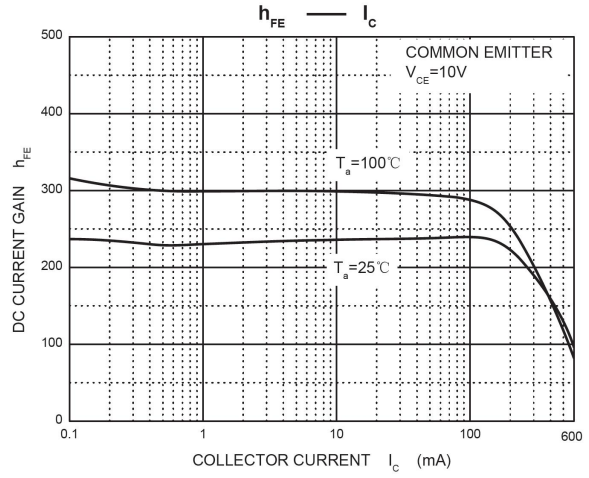
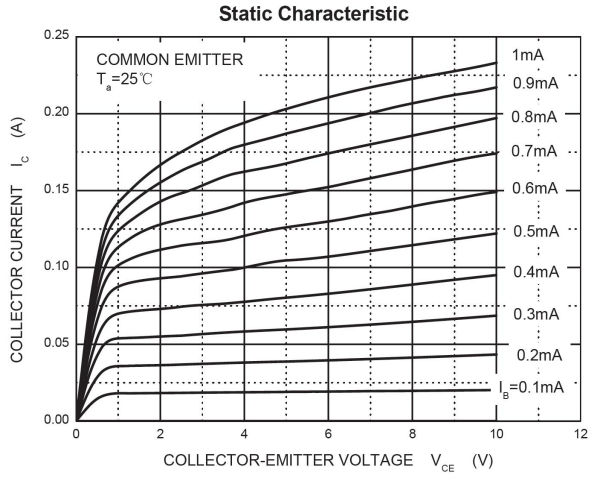
Characteristic	Symbol	Test Condition	Min	Type	Max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =60Vdc	--	--	0.01	μA _{dc}
		V _{CB} =60Vdc, I _E =0, T _A =125°C	--	--	10	
Emitter-Cutoff Current	I _{EBO}	VEB=3.0Vdc, I _C =0	--	--	100	nA _{dc}
Collector Cutoff Current	I _{CEX}	VCE=60Vdc, IEB(off)=3.0 Vdc	--	--	10	nA _{dc}
Base Cutoff Current	I _{BEX}	VCE=60Vdc, VEB=3.0 Vdc	--	--	20	nA _{dc}
Collector-Emitter Breakdown Voltage(3)	V _{(BR)CEO}	I _C =10mA _{dc} , I _B =0	40	--		Vdc
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C =10μ A _{dc} , I _E =0	75	--		Vdc
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μ A _{dc} , I _C =0	6	--	--	Vdc
DC Current Gain	h _{FE}	I _C =0.1mA _{dc} , VCE=10Vdc	35	--	--	—
		I _C =1mA _{dc} , VCE=10Vdc	50	--	--	
		I _C =10mA _{dc} , VCE=10Vdc	75	--	--	
		I _C =1mA _{dc} , VCE=10Vdc T _A =-55°C	35	--	--	
		I _C =150mA _{dc} , VCE=10Vdc	100	--	300	
		I _C =500mA _{dc} , VCE=10Vdc	40	--	--	
Collector-Emitter Saturation Voltage(3)	V _{CE(sat)}	I _C =150mA _{dc} , I _B =15mA _{dc}	--	--	0.3	Vdc
		I _C =500mA _{dc} , I _B =50mA _{dc}			1.0	
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =150mA _{dc} , I _B =15mA _{dc}	0.6	--	1.2	Vdc
		I _C =500mA _{dc} , I _B =50mA _{dc}	--	--	2.0	
Current-Gain-Bandwidth Product	f _T	I _C =10mA _{dc} , V _{CE} =20Vdc, f=100 MHz	300	--	--	MHz
Output Capacitance	C _{obo}	V _{CB} =10Vdc, I _E =0, f=1.0MHz	--	--	8.0	pF
INput Capacitance	C _{ibo}	V _{EB} =0.5Vdc, I _C =0, f=1.0MHz	--	--	25	pF
Delay Time	t _d	V _{CC} =30Vdc, V _{BE} =-0.5Vdc, I _C =150mA _{dc} , I _{B1} =15mA _{dc}	--	--	10	nS
Rise Time	t _r		--	--	25	
Storage Time	t _s	V _{CC} =30Vdc, I _C =150mA _{dc} , I _{B1} =I _{B2} =15mA _{dc}	--	--	225	nS
Fall Time	t _f		--	--	60	

- FR-5=1.0x0.75x0.062in.
- Alumina=0.4x0.3x0.024in, 99.5% alumina.
- Pulse Width ≤300μS; Duty Cycle ≤2.0%.

CDS2222A-ME

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Typical Characteristics



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.