

**12A01M**

Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, small motor drive, muting circuit.

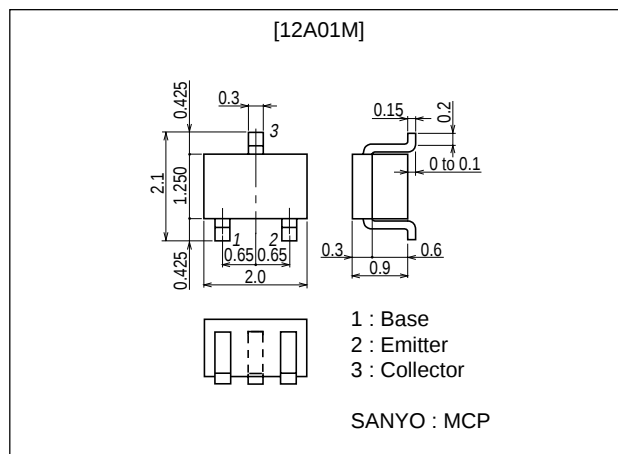
Features

- Ultrasmall package facilitates miniaturization in end products.
- Low collector-to-emitter saturation voltage (resistance).
RCE (sat) typ.=0.57Ω [IC=0.5A, IB=25mA].
- Small ON-resistance (Ron).

Package Dimensions

unit : mm

2059B



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-15	V
Collector-to-Emitter Voltage	V _{CEO}		-12	V
Emitter-to-Base Voltage	V _{EB0}		-5	V
Collector Current	I _C		-500	mA
Collector Current (Pulse)	I _{CP}		-1.0	A
Collector Dissipation	P _C	Mounted on a glass-epoxy board (20X30X1.6mm)	300	mW
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =-12V, I _E =0			-0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	μA
DC Current Gain	h _{FE}	V _{CE} =-2V, I _C =-10mA	300		700	
Gain-Bandwidth Product	f _T	V _{CE} =-2V, I _C =-50mA		490		MHz

Marking : XP

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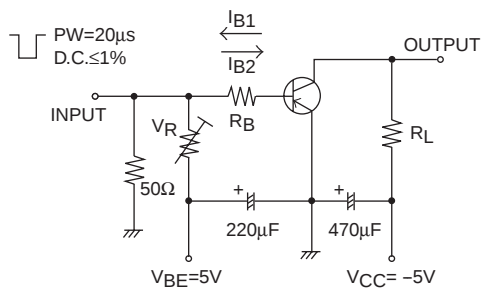
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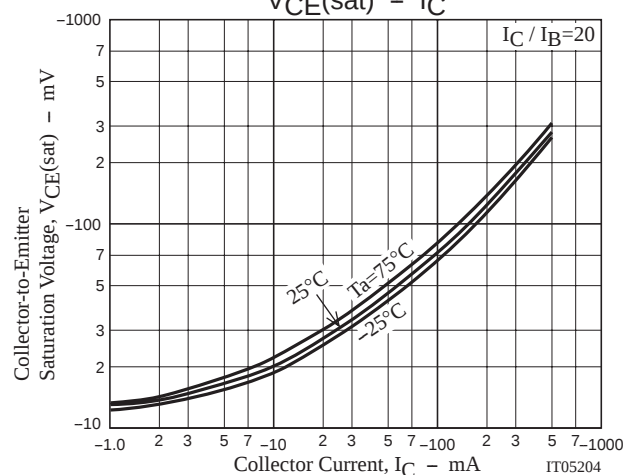
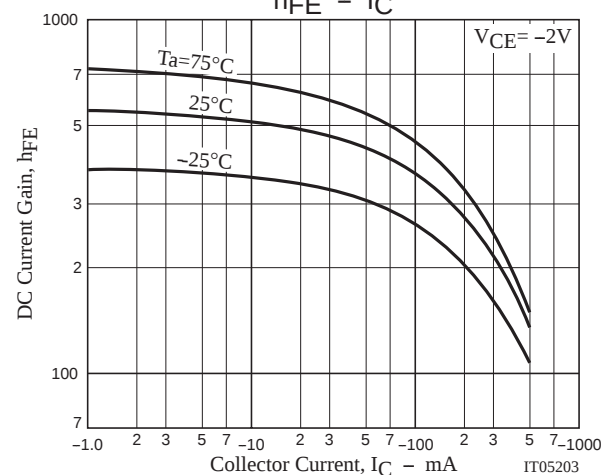
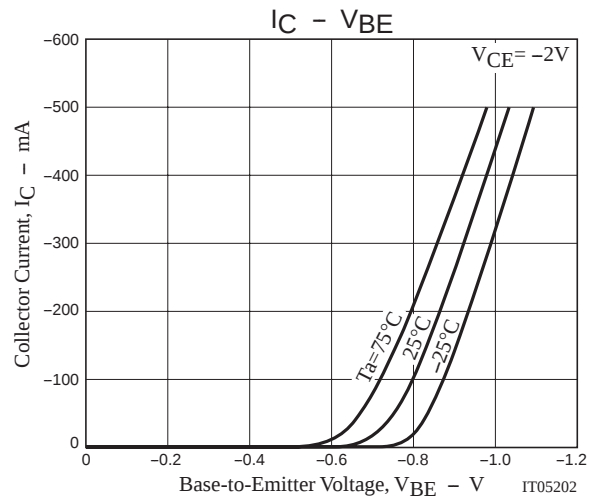
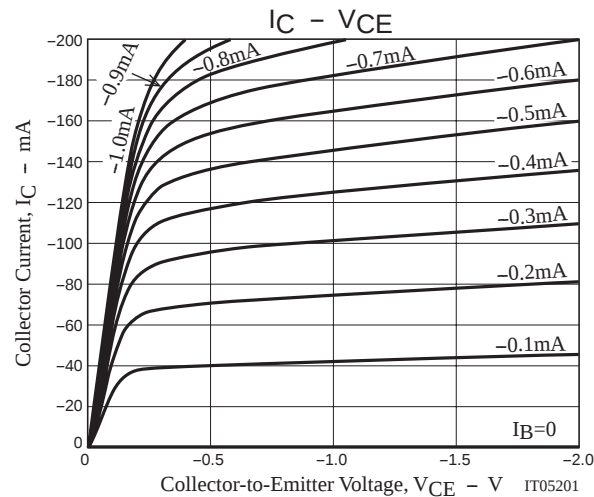
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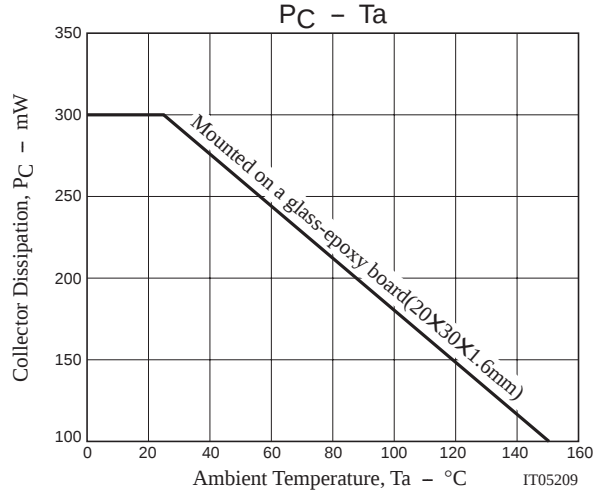
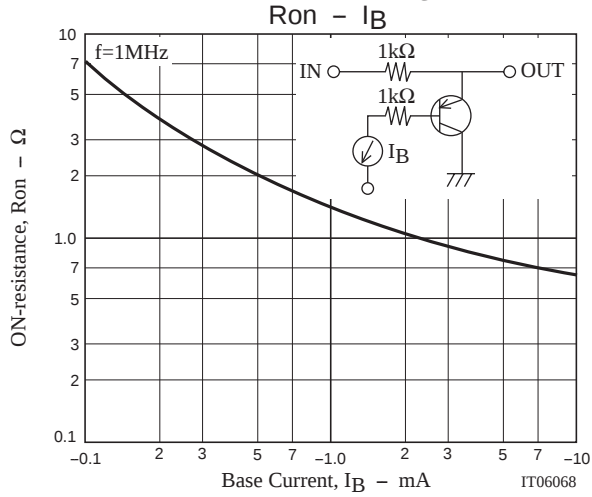
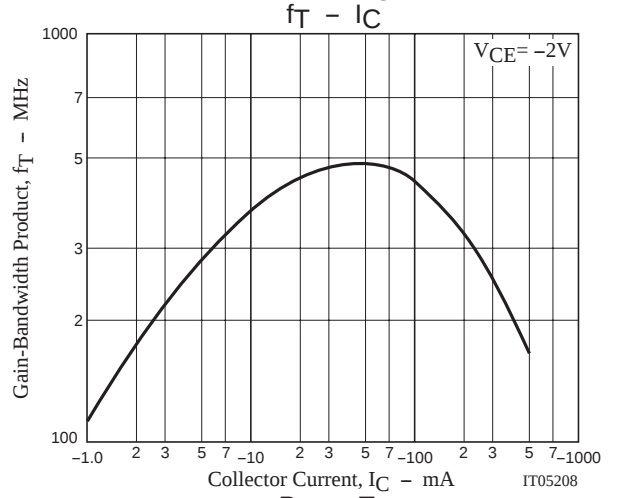
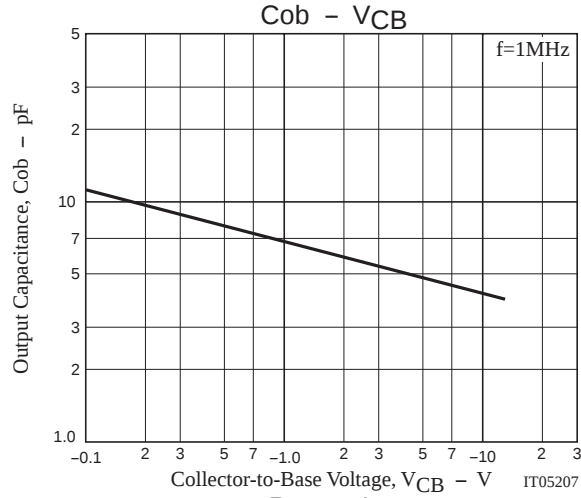
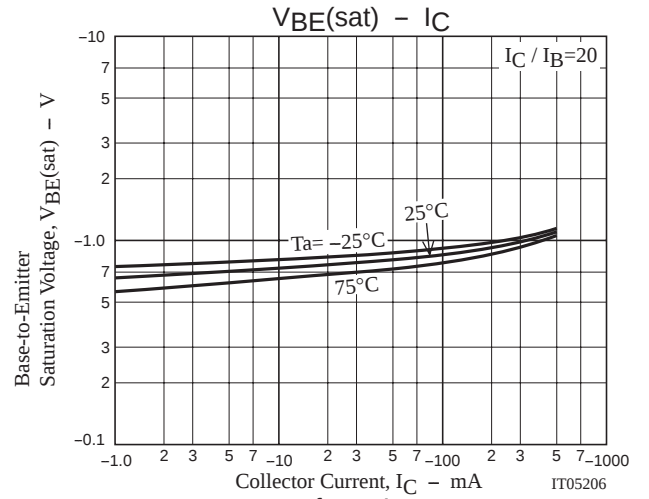
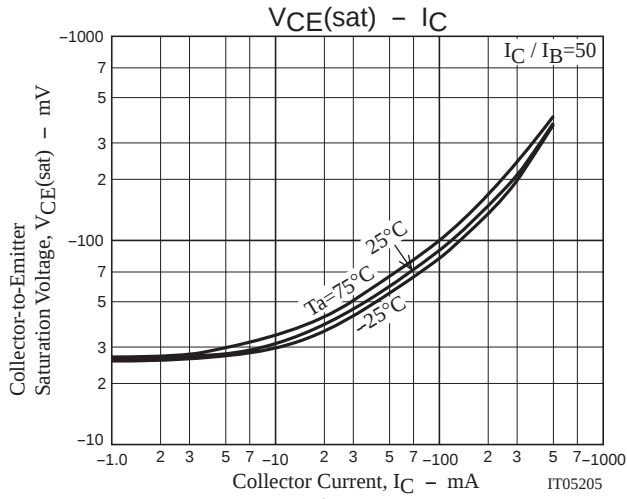
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	Cob	V _{CB} =-10V, f=1MHz		4		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =-200mA, I _B =-10mA		-150	-300	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =-200mA, I _B =-10mA		-0.9	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-15			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =-1mA, R _{BE} =∞	-12			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5			V
Turn-ON Time	t _{on}	See specified Test Circuit.		30		ns
Storage Time	t _{stg}	See specified Test Circuit.		57		ns
Fall Time	t _f	See specified Test Circuit.		30		ns

Switching Time Test Circuit



$I_C = 20I_{B1} = -20I_{B2} = -400\text{mA}$





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