

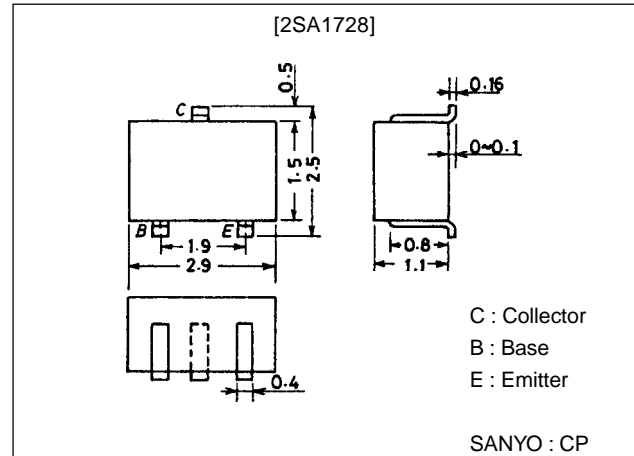
**2SA1728****High-Speed Switching Applications****Features**

- Adoption of FBET process.
- Low collector-to-emitter saturation voltage.
- Fast switching speed.
- Small-sized package.

Package Dimensions

unit:mm

2018A

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CE0}		-40	V
Emitter-to-Base Voltage	V_{EB0}		-5	V
Collector Current	I_C		-500	mA
Collector Current (Pulse)	I_{CP}		-1	A
Collector Dissipation	P_C		200	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}	$V_{CB}=-40V, I_E=0$			-0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3V, I_C=0$			-0.5	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=-50mA$	70*		280*	
	h_{FE2}	$V_{CE}=-2V, I_C=-500mA$	25			
Gain-Bandwidth Product	f_T	$V_{CE}=-2V, I_C=-50mA$		350		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-200mA, I_B=-10mA$	-0.2		-0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-200mA, I_B=-10mA$	-0.8		-1.2	V

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2SA1728

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-50			V
Collector-to-Emitter Saturation Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-40			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit		60	120	ns
Storage Time	t_{stg}	See specified Test Circuit		120	220	ns
Turn-OFF Time	t_{off}	See specified Test Circuit		170	320	ns

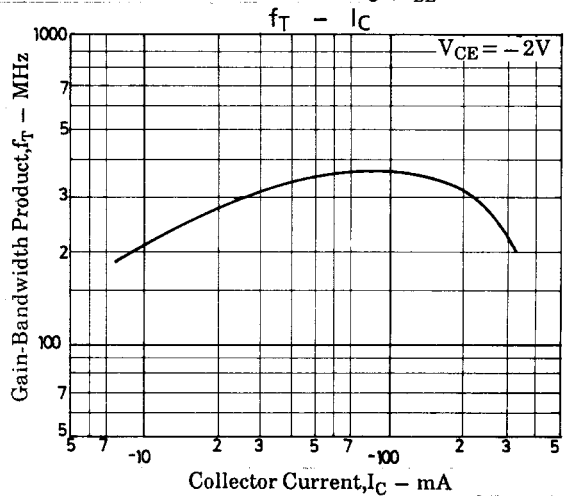
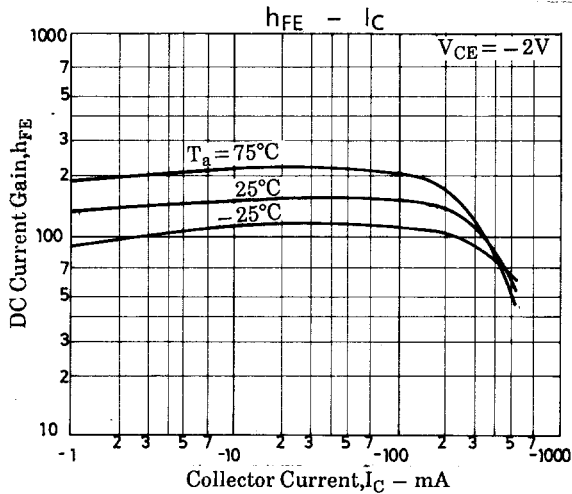
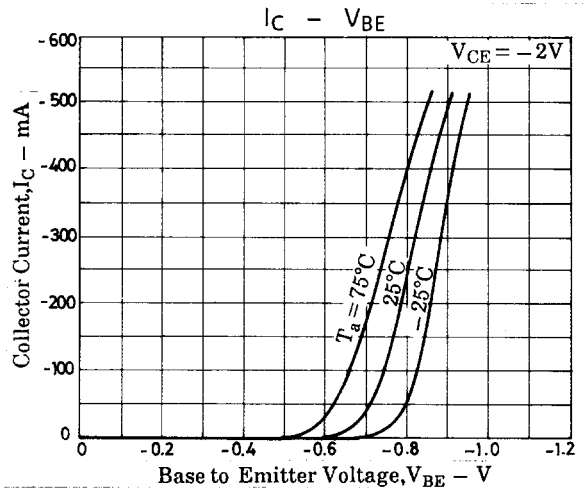
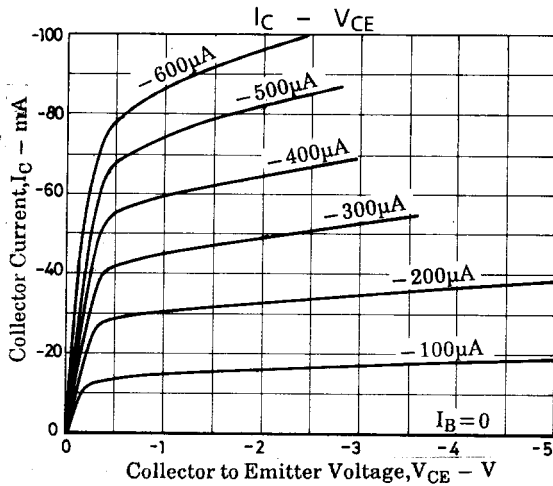
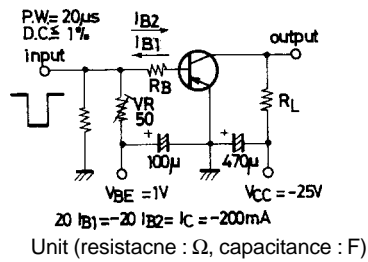
* : The 2SA1728 is classified by 50mA h_{FE} as follows :

70	3	140	100	4	200	140	5	280
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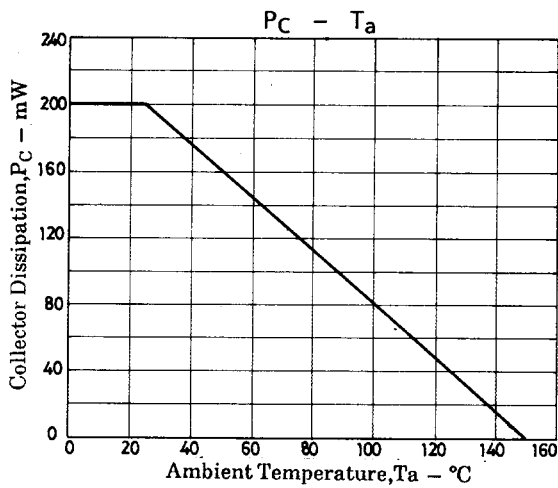
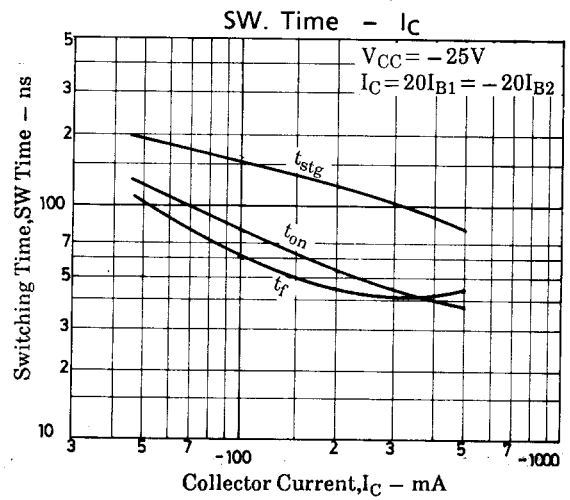
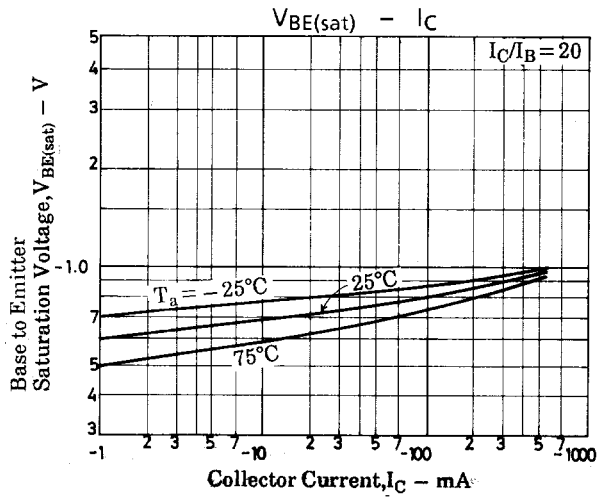
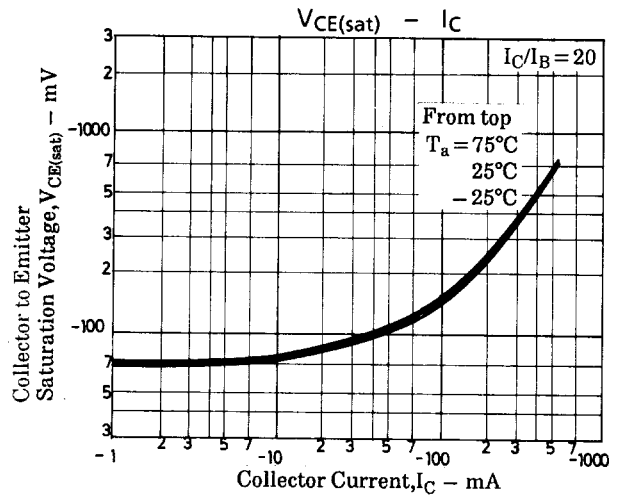
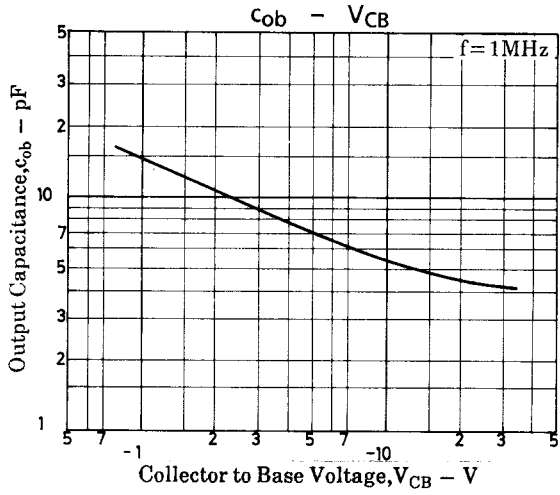
Marking : DS

h_{FE} rank : 3, 4, 5

Switching Time Test Circuit



2SA1728



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