Ordering number: EN3132

SANYO

No.3132

2SA1728

PNP Epitaxial Planar Silicon Transistor

High-Speed Switching Applications

Features

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

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V_{CBO}	−50	V
Collector to Emitter Voltage	V_{CEO}	−40	V
Emitter to Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−500	mA
Collector Current(Pulse)	I_{CP}	−1	A
Collector Dissipation	P_C	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
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	$h_{FE}(1)$	$V_{CE}=-2V, I_C=-50mA$	70※		280※	
	$h_{FE}(2)$	$V_{CE}=-2V, I_C=-500mA$	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
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-200mA, I_B=-10mA$		−0.2	−0.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=-200mA, I_B=-10mA$		−0.8	−1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10μA, I_E=0$	−50			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	−40			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10μA, I_C=0$	−5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		60	120	ns
Storage Time	t_{stg}	〃		120	220	ns
Turn-OFF Time	t_{off}	〃		170	320	ns

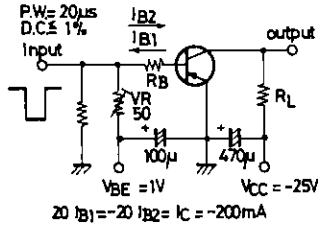
※ : The 2SA1728 is classified by 50mA h_{FE} as follows :

70 3 140	100 4 200	140 5 280

Marking : DS

h_{FE} rank : 3,4,5

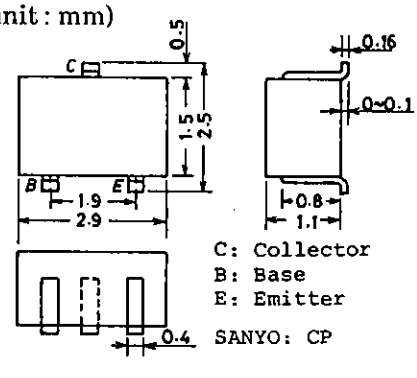
Switching Time Test Circuit



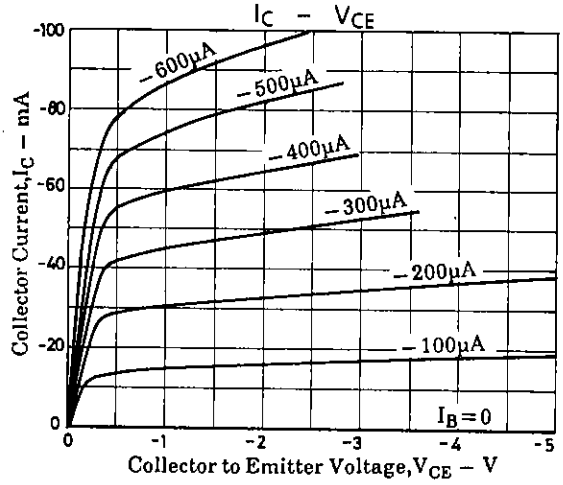
Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2018A

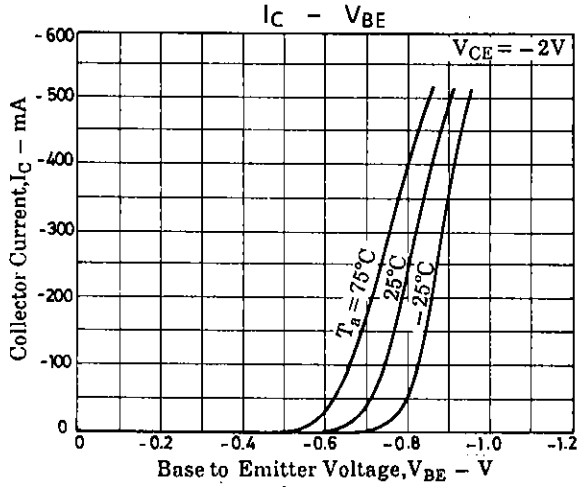
(unit : mm)



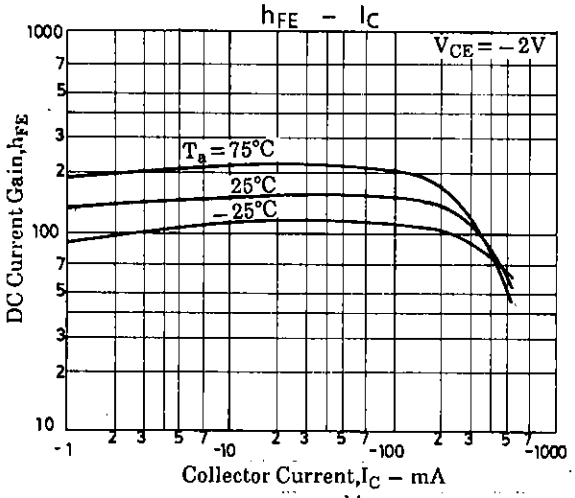
I_C – V_{CE}



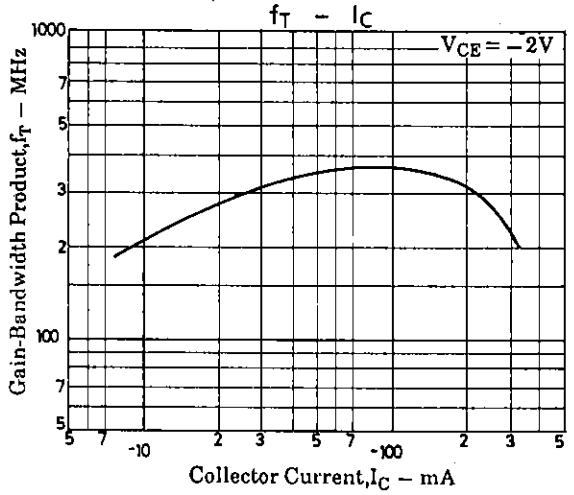
I_C – V_{BE}



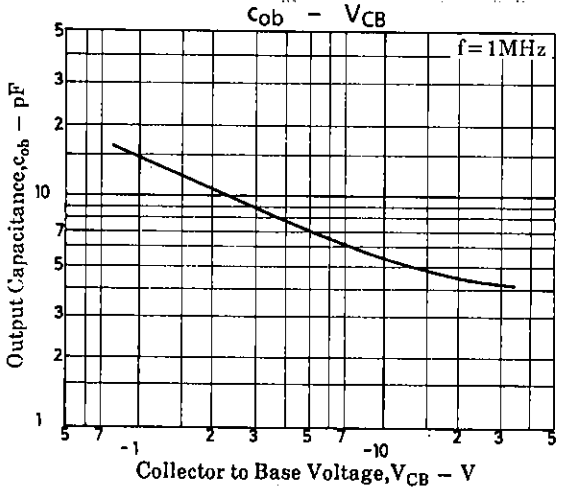
h_{FE} – I_C



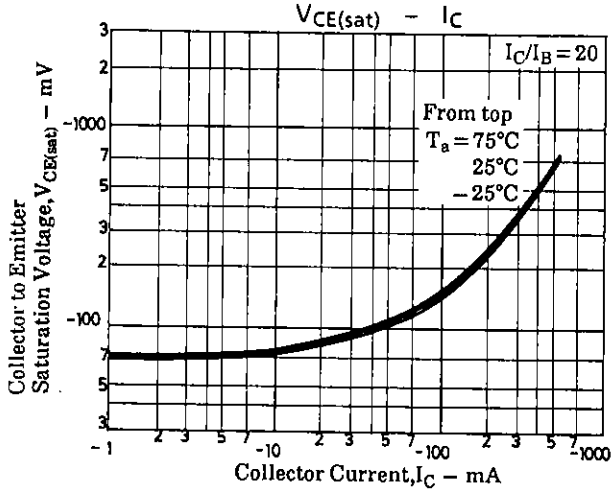
f_T – I_C



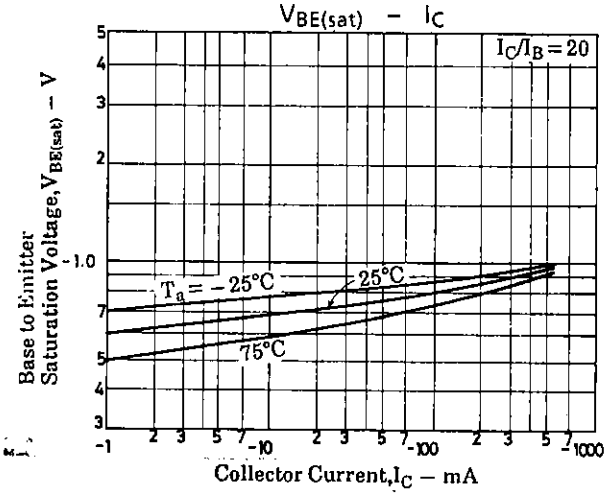
C_{ob} – V_{CB}



$V_{CE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C



SW. Time – I_C