



2SA1732

High-Speed Switching Applications

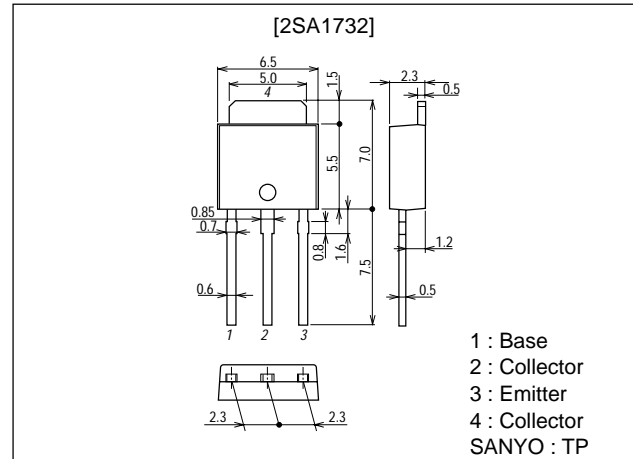
Features

- Adoption of FBET processes.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

Package Dimensions

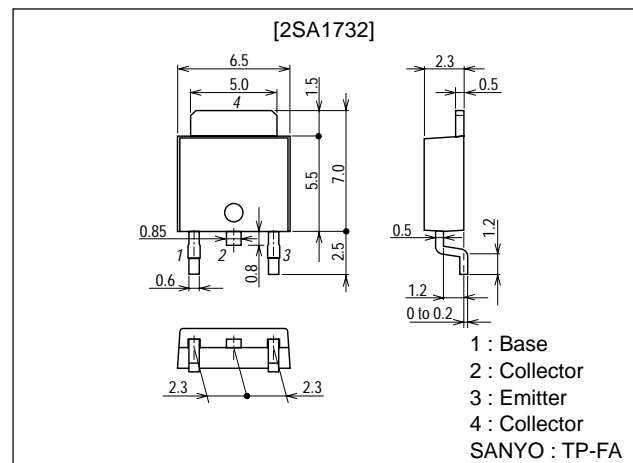
unit:mm

2045B



unit:mm

2044B



■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	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		-8	A
Collector Current (Pulse)	I_{CP}		-12	A
Collector Dissipation	P_C		1	W
		$T_c=25^\circ\text{C}$	15	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

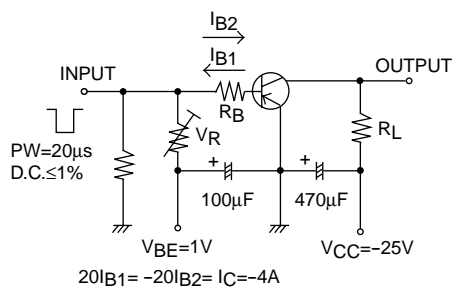
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3\text{V}, I_C=0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	70*		280*	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-8\text{A}$	25			
Gain-Bandwidth Product	f_T	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$		250		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		100		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-4\text{A}, I_B=-200\text{mA}$		-0.3	-0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-4\text{A}, I_B=-200\text{mA}$		-0.95	-1.3	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-50			V
Collector-to-Emitter Saturation Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-40			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit		50	100	ns
Storage Time	t_{stg}	See specified Test Circuit		120	220	ns
Turn-OFF Time	t_{off}	See specified Test Circuit		150	300	ns

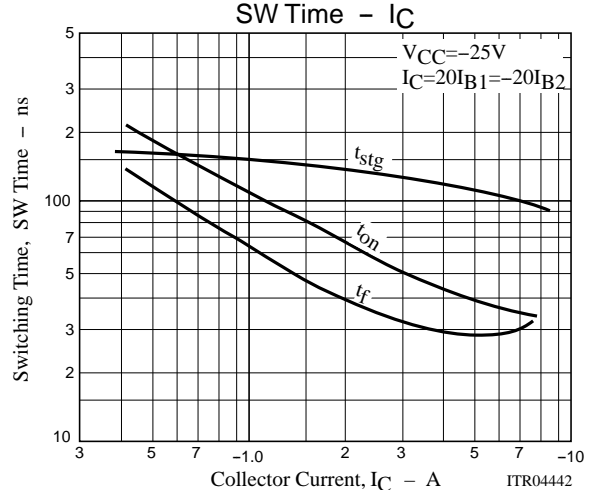
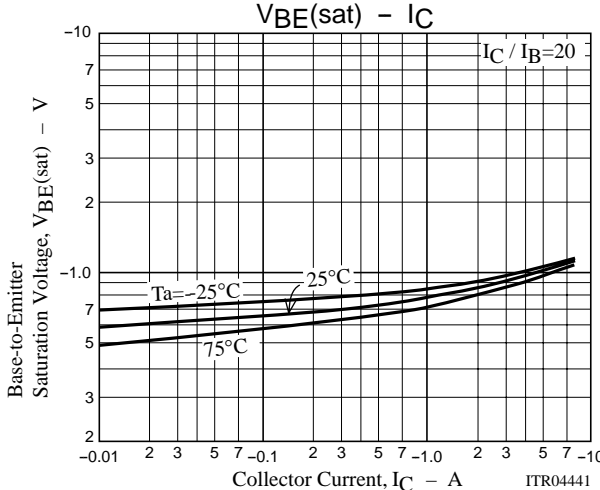
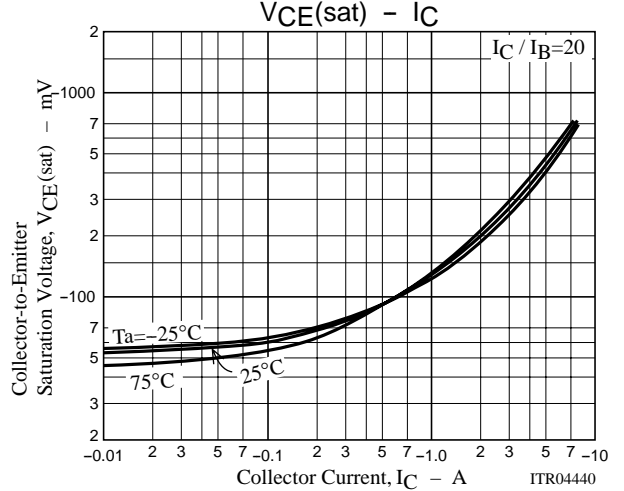
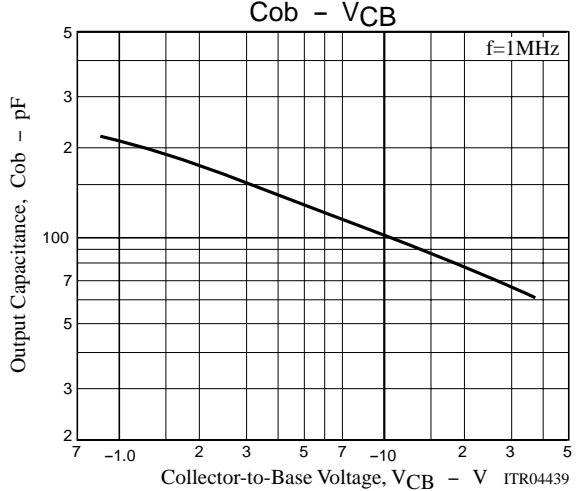
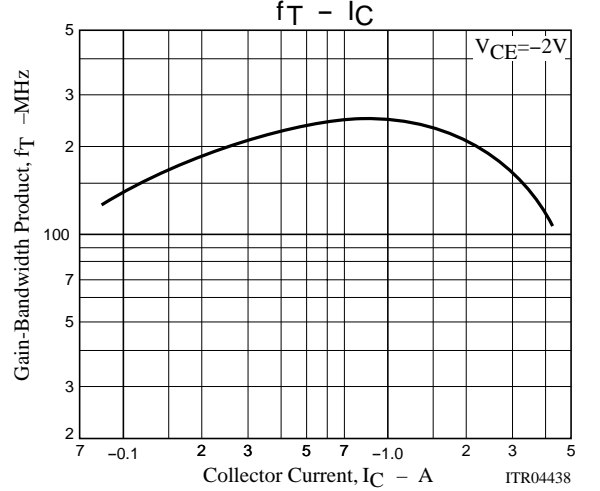
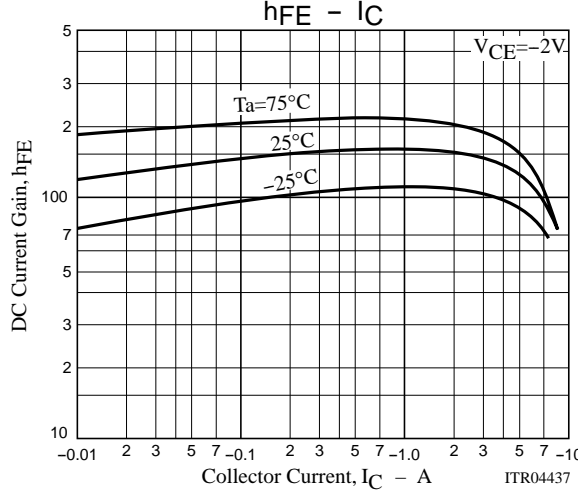
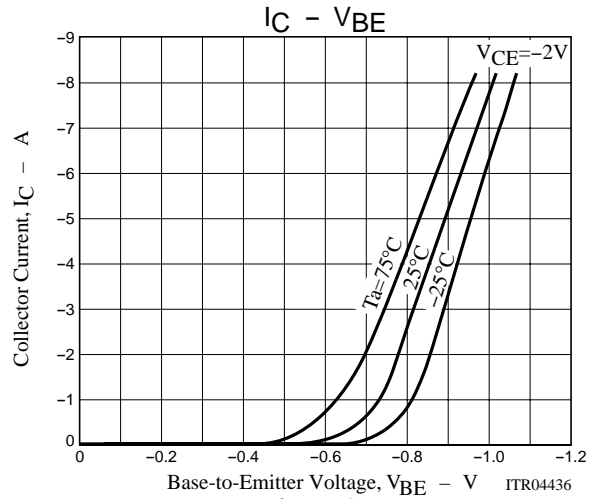
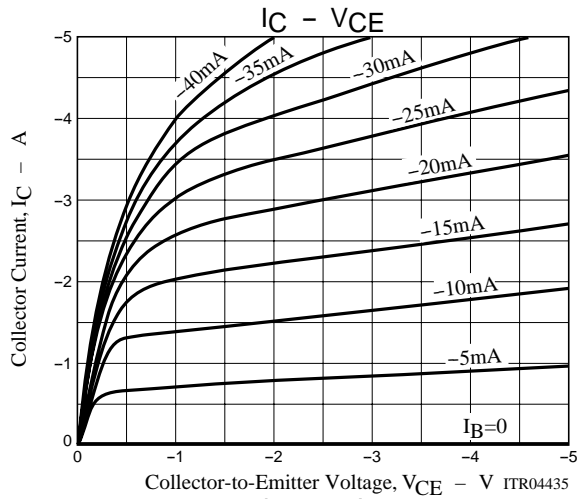
* : The 2SA1732 is classified by 500mA h_{FE} as follows :

Rank	Q	R	S
h_{FE}	70 to 140	100 to 200	140 to 280

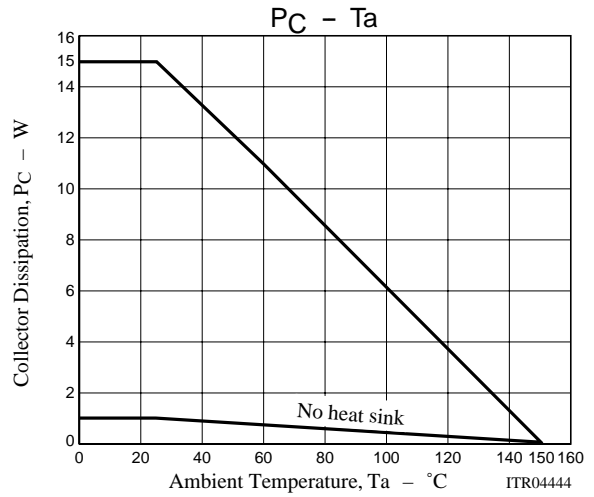
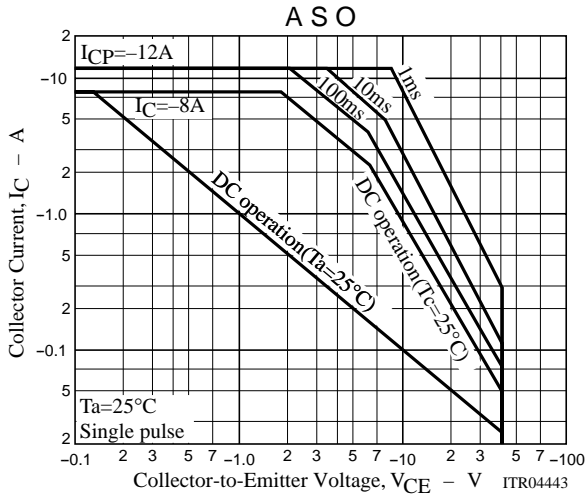
Switching Time Test Circuit



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