

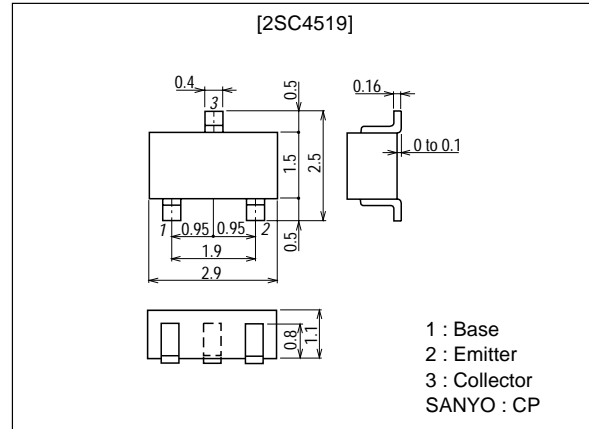
**2SC4519****High-Speed Switching Applications****Features**

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

Package Dimensions

unit:mm

2018B

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		60	V
Collector-to-Emitter Voltage	V_{CEO}		45	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	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}	$V_{CB}=45\text{V}, I_E=0$			0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			0.5	μA
DC Current Gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=50\text{mA}$	100*		400*	
	h_{FE2}	$V_{CE}=2\text{V}, I_C=500\text{mA}$	40			
Gain-Bandwidth Product	f_T	$V_{CE}=2\text{V}, I_C=50\text{mA}$		350		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		4		pF

* : The 2SC4519 is classified by 50mA h_{FE} as follows :

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Marking : TT

 h_{FE} rank : 4, 5, 6

Rank	4	5	6
h_{FE}	100 to 200	140 to 280	200 to 400

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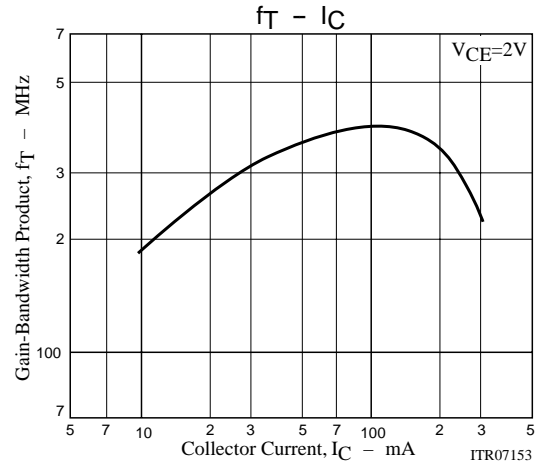
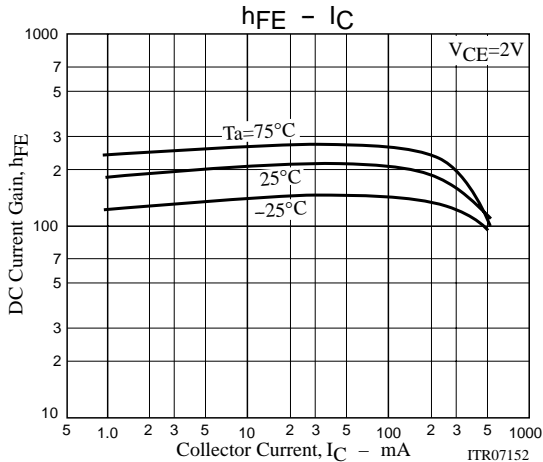
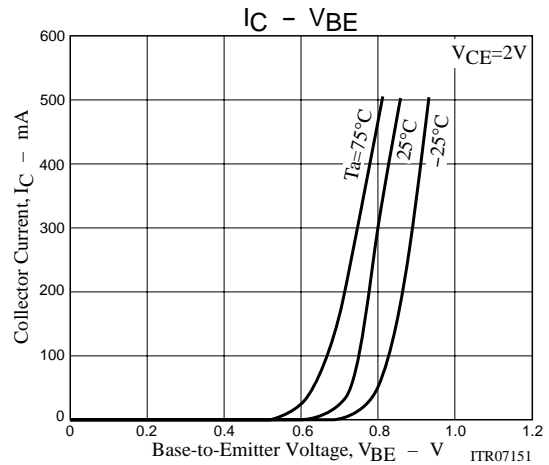
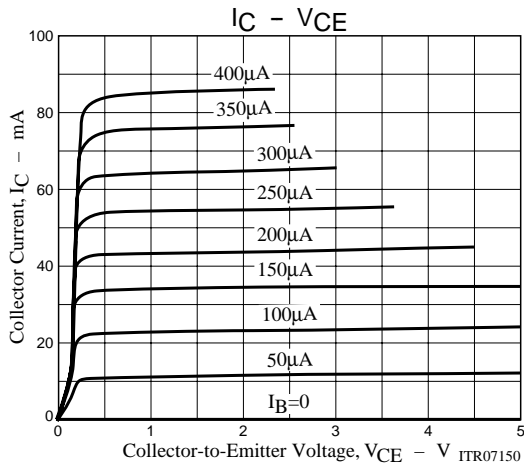
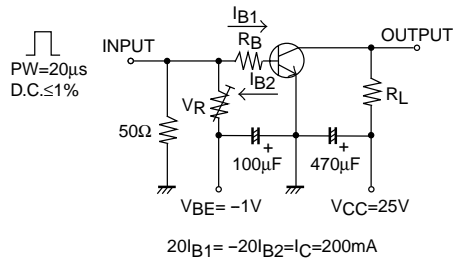
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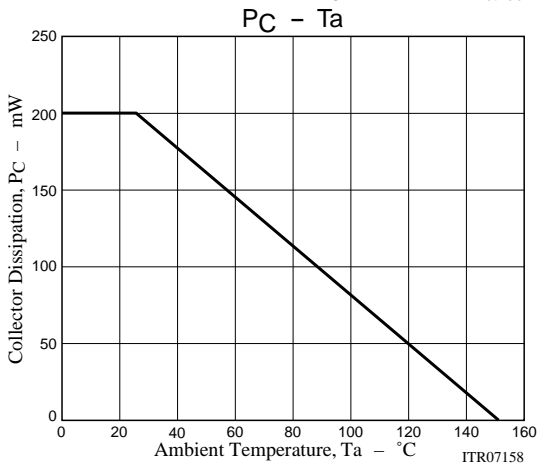
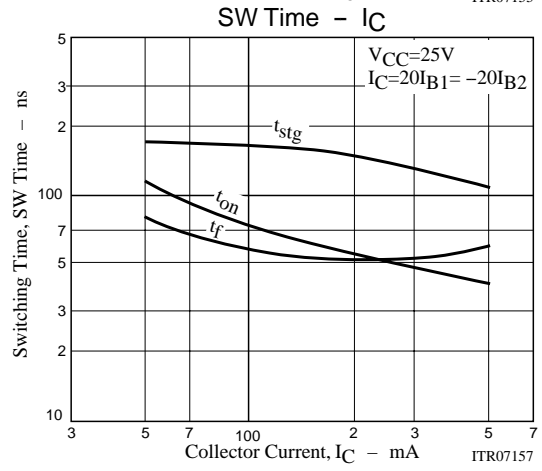
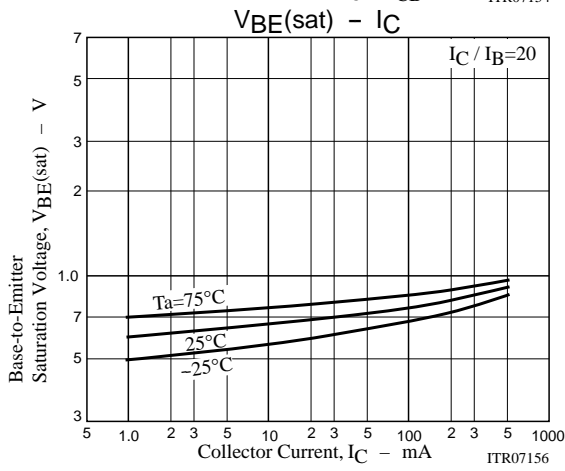
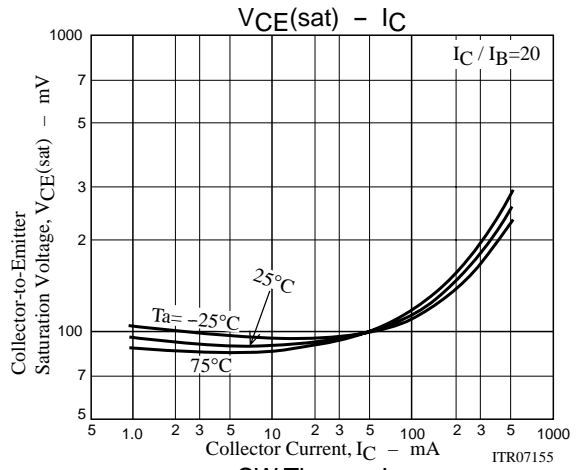
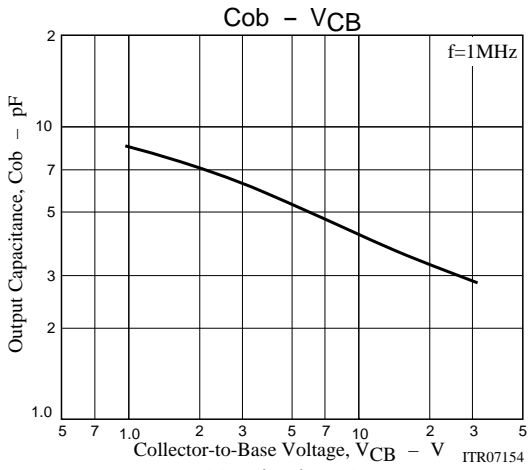
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=10mA$		0.15	0.45	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=200mA, I_B=10mA$		0.8	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	45			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.		150	270	ns
Fall Time	t_f	See specified test circuit.		200	350	ns

Switching Time Test Circuit



2SC4519



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