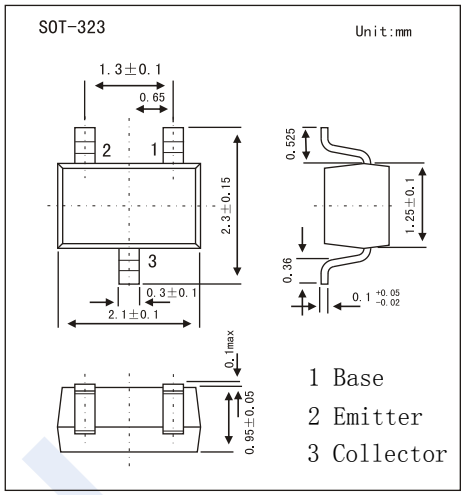
NPN Transistors

2SD1819A



■ Features

- Low Collector-to-Emitter Saturation Voltage
- High foward current transfer ratio h_{FE}.
- Complementary to 2SB1218A

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	7	
Collector Current - Continuous	I_C	100	mA
Collector Current - Pulse	I_{CP}	200	
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	60			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 2 mA, I_B= 0	50			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	7			
Collector-base cut-off current	I_{CBO}	V_{CB}= 50 V , I_E= 0			0.1	uA
Collector-emitter cut-off current	I_{CEO}	V_{CE}= 40 V , I_B= 0			10	
Emitter cut-off current	I_{EBO}	V_{EB}= 6V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA		0.1	0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA			1.2	
DC current gain	$h_{FE(1)}$	V_{CE}= 10V, I_C= 2mA	160		460	
	$h_{FE(2)}$	V_{CE}= 2V, I_C= 100 mA	90			
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz		3.5		pF
Transition frequency	f_T	V_{CE}= 10V, I_E= -2 mA,f=1MHz		150		MHz

■ Classification of $h_{fe(1)}$

Type	2SD1819A-Q	2SD1819A-R	2SD1819A-S
Range	160-260	210-340	290-460
Marking	ZQ	ZR	ZS

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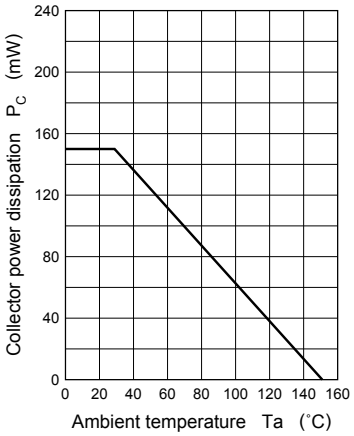
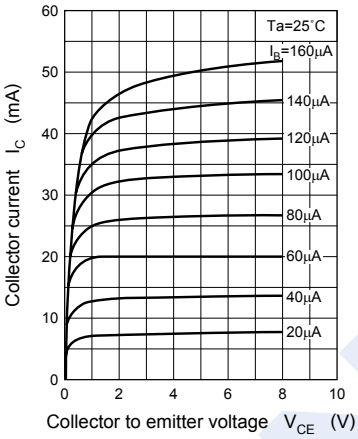
■ Typical Characterisitics

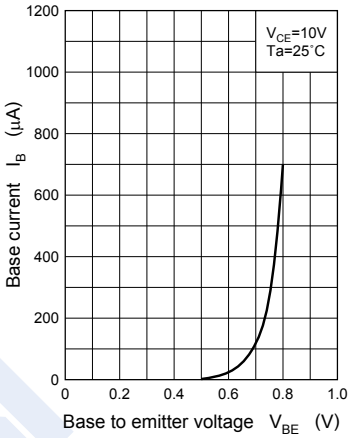
P_C — Ta



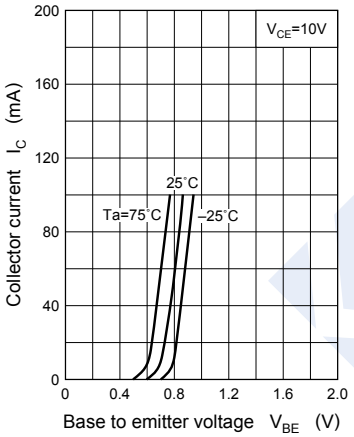
I_C — V_{CE}



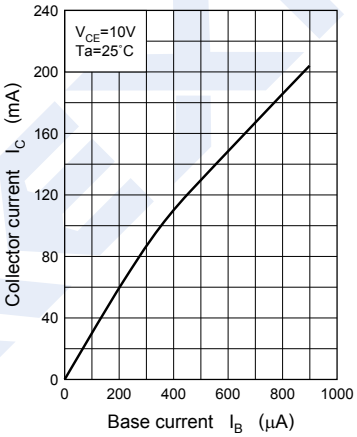
I_B — V_{BE}



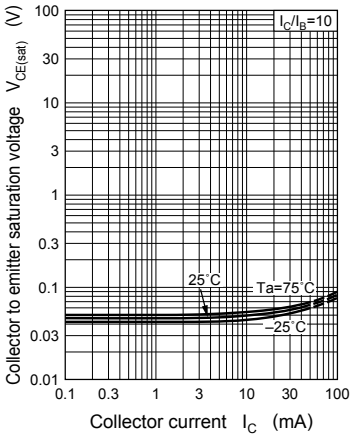
I_C — V_{BE}



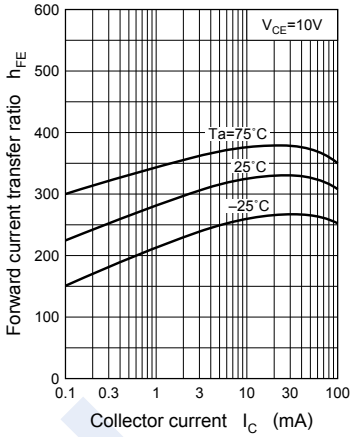
I_C — I_B



$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E