

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

**FEATURES**

- High DC Current Gain.
- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Complementary to 2SB1218A

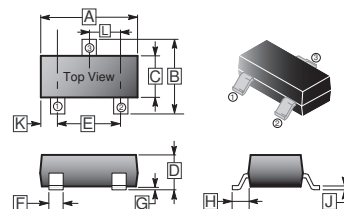
**APPLICATION**

- General purpose amplification.

**CLASSIFICATION OF  $h_{FE}$**

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

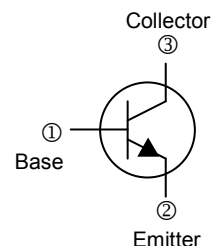
**SOT-323**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100	REF.
B	1.80	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	-	-
E	1.20	1.40	L	0.650	TYP.
F	0.20	0.40			

**PACKAGE INFORMATION**

Package	MPQ	LeaderSize
SOT-323	3K	7' inch



**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

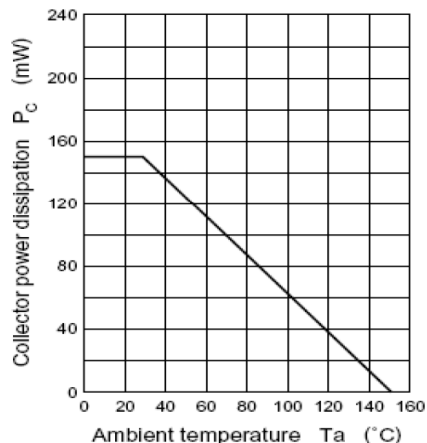
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	100	mA
Collector Power Dissipation	$P_C$	150	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	833	$^\circ\text{C} / \text{W}$
Junction & Storage temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

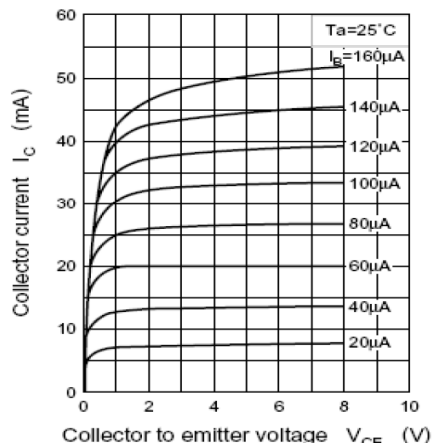
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60	-	-	V	$I_C=10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	-	-	V	$I_C=2\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7	-	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	$V_{CB}=20\text{V}, I_E=0$
Base Cut-Off Current	$I_{CEO}$	-	-	100	$\mu\text{A}$	$V_{CE}=10\text{V}, I_B=0$
Emitter Cut-off Current	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	$V_{EB}=7\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	160	-	460		$V_{CE}=10\text{V}, I_C=2\text{mA}$
	$h_{FE(2)}$	90	-	-		$V_{CE}=2\text{V}, I_C=100\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.3	V	$I_C=100\text{mA}, I_B=10\text{mA}$
Transition Frequency	$f_T$	-	150	-	MHz	$V_{CE}=10\text{V}, I_C=2\text{mA}, f=200\text{MHz}$
Collector Output Capacitance	$C_{ob}$	-	3.5	-	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

**CHARACTERISTIC CURVES**

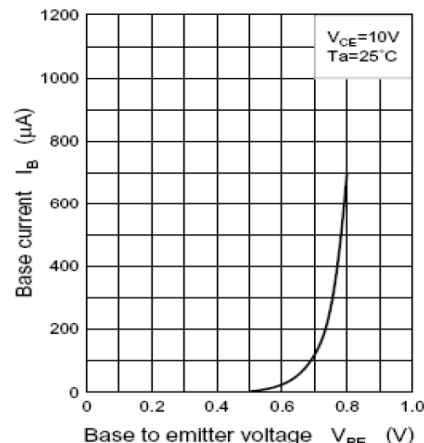
$P_C - T_a$



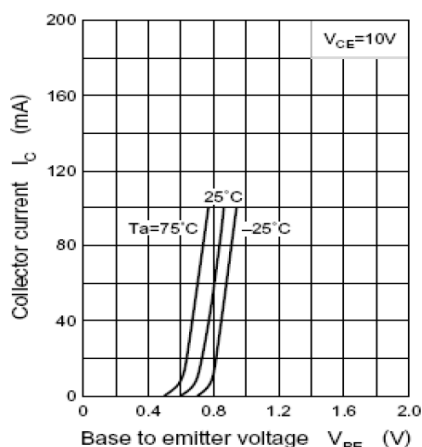
$I_C - V_{CE}$



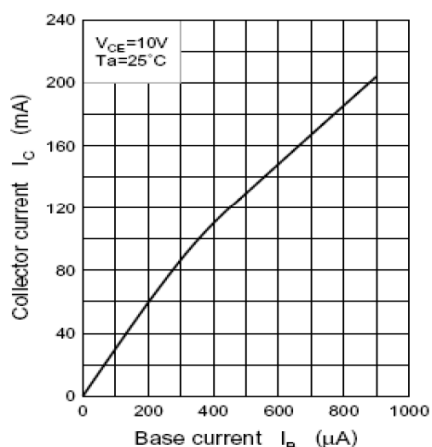
$I_B - V_{BE}$



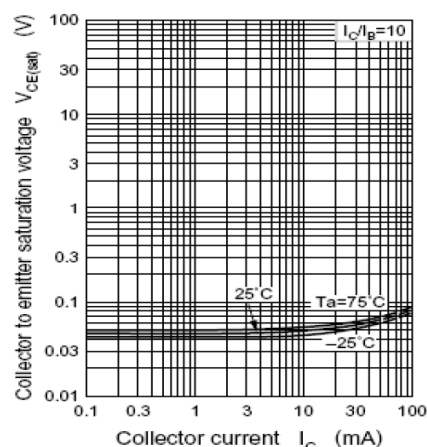
$I_C - V_{BE}$



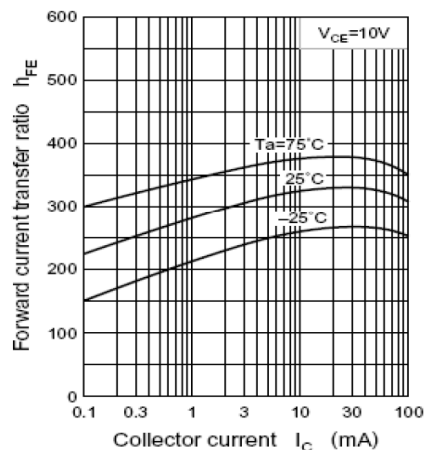
$I_C - I_B$



$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$

