

Silicon NPN Epitaxial

2SD1918

■ Features

- High breakdown voltage.($V_{CE0} = 160V$)
- Low collector output capacitance.Typ. 20pF at $V_{CB} = 10V$
- High transition frequency.($f_T = 80MHz$)

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	160	V
Collector-emitter voltage	V_{CEO}	160	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_c	1.5	A(DC)
		3	A(Pulse) *
Collector power dissipation	P_c	1	W
		10	W
$T_c = 25^\circ C$			
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

* $P_w=200msec$ duty=1/2■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	$I_c = 50\mu A$	160			V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_c = 1mA$	160			V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 50\mu A$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 120V$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V$			1	μA
Collector to emitter saturation voltage *	$V_{CE(sat)}$	$I_C/I_B = 1A/0.1A$			2	V
Base to emitter voltage *	$V_{BE(sat)}$	$I_C/I_B = 1A/0.1A$			1.5	V
DC current transfer ratio	h_{FE}	$V_{CE}/I_C = 5V/0.1A$	120		390	
Transition frequency	f_T	$V_{CE} = 5V, I_E = -0.1A, f = 30MHz$		80		MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0A, f = 1MHz$		20		pF

* Measured using pulse current.

■ h_{FE} Classification

Rank	Q	R
h_{FE}	120 to 270	180 to 390