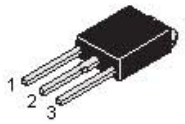
2SA1012Z

PNP Silicon Epitaxial Planar Transistor

High current switching application



1.Base 2. Collector 3. Emitter
TO-251 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	5	A
Collector Dissipation	P_C	25	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 1 V, $-I_C$ = 1 A at $-V_{CE}$ = 1 V, $-I_C$ = 3 A	 h_{FE} h_{FE}	 70 30	 - -	 240 -	 - -
Collector Base Cutoff Current at $-V_{CB}$ = 50 V	$-I_{CBO}$	-	-	1	µA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V	$-I_{EBO}$	-	-	1	µA
Collector Base Breakdown Voltage at $-I_C$ = 100 µA	$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA	$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 100 µA	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 3 A, $-I_B$ = 150 mA	$-V_{CE(sat)}$	-	-	0.4	V
Base Emitter Saturation Voltage at $-I_C$ = 3 A, $-I_B$ = 150 mA	$-V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $-V_{CE}$ = 4 V, $-I_C$ = 1 A	f_T	-	60	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz	C_{ob}	-	170	-	pF
Turn on Time at $-V_{CC}$ = 30 V, $-I_{B1}$ = I_{B2} = 0.15 A, Duty Cycle ≤ 2%	t_{on}	-	-	0.1	µs
Storage Time at $-V_{CC}$ = 30 V, $-I_{B1}$ = I_{B2} = 0.15 A, Duty Cycle ≤ 2%	t_s	-	-	1	µs
Fall Time at $-V_{CC}$ = 30 V, $-I_{B1}$ = I_{B2} = 0.15 A, Duty Cycle ≤ 2%	t_f	-	-	0.1	µs