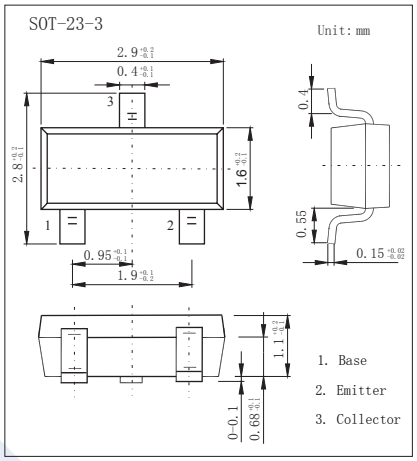
NPN Transistors

2SD2142



■ Features

- Collector Current Capability I_C=300mA
- Collector Emitter Voltage V_{CEO}=32V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	32	
Emitter - Base Voltage	V_{EBO}	12	
Collector Current - Continuous	I_C	300	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	625	℃/W
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	40			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	32			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	12			
Collector-base cut-off current	I_{CBO}	V_{CB}=30 V , I_E= 0			0.1	uA
Emitter-base cut-off current	I_{EBO}	V_{EB}=12 V , I_C= 0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=200mA, I_B=0.2mA			1.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=200mA, I_B=0.2mA			2	
DC current gain	h_{FE}	V_{CE}= 3V, I_C= 100mA	5000			
Collector output capacitance	C_{ob}	V_{CB}= 10V,I_E=0,f=1MHz		2.5		pF
Transition frequency	f_T	V_{CE}= 5V, I_C=10mA,f=100MHz		200		MHz

■ Marking

Marking	R1M

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■ Typical Characterisitics