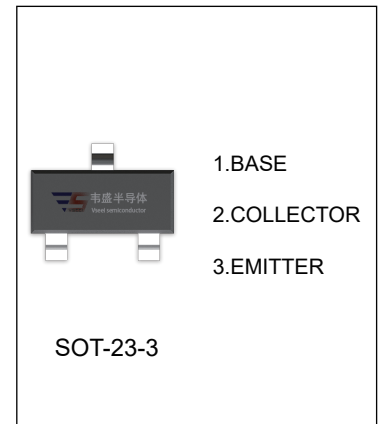


## 2SD0602A TRANSISTOR (NPN)

### FEATURES

- Low Collector to Emitter Saturation Voltage
- Mini Type Package



### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	500	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$ *	$V_{CE}=10\text{V}, I_C=0.15\text{A}$	85		340	
	$h_{FE(2)}$ *	$V_{CE}=10\text{V}, I_C=0.5\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$ *	$I_C=0.3\text{A}, I_B=0.03\text{A}$			0.6	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=0.05\text{A}, f=200\text{MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			15	pF

\*Pulse test: pulse width  $\leq 350\mu\text{s}$ , duty cycles  $\leq 2.0\%$ .

### CLASSIFICATION OF $h_{FE(1)}$

RANK	XQ	XR	XS
RANGE	85 - 170	120 - 240	170 - 340
MARKING	WQ1	WR1	WS1