

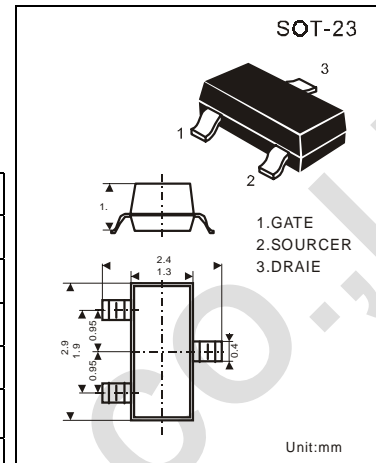
NPN EPITAXIAL SILICON TRANSISTOR

GENERAL PURPOSE TRANSISTOR

- * Complement to MMBT2907ALT1
- * Collector Dissipation: $P_c(\max)=225\text{mW}$
- * Collector-Emitter Voltage : $V_{ce0}=40\text{V}$

ABSOLUTE MAXIMUM RATINGS at $T_a=25^\circ\text{C}$

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{cbo}	75	V
Collector-Emitter Voltage	V_{ceo}	40	V
Emitter-Base Voltage	V_{ebo}	6	V
Collector Current	I_c	600	mA
Collector Dissipation $T_a=25^\circ\text{C}^*$	P_D	225	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55-150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS at $T_a=25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{cbo}	75			V	$I_c=10\mu\text{A}$ $I_e=0$
Collector-Emitter Breakdown Voltage#	BV_{ceo}	40			V	$I_c=10\text{mA}$ $I_b=0$
Emitter-Base Breakdown Voltage	BV_{ebo}	6			V	$I_e=10\mu\text{A}$ $I_c=0$
Emitter Cutoff Current	I_{cex}			10	nA	$V_{ce}=60\text{V}$ $V_{eb}=3\text{V}$
Collect Cutoff Current	I_{cbo}			10	nA	$V_{cb}=60\text{V}$ $I_e=0$
Collect Cutoff Current	I_{cbo}			10	nA	$V_{cb}=60\text{V}$ $I_e=0$ $T_a=125^\circ\text{C}$
Collect Cutoff Current	I_{ebo}			10	nA	$V_{cb}=3\text{V}$ $I_c=0$
DC Current Gain	H_{fe1}	35				$V_{ce}=10\text{V}$ $I_c=0.1\text{mA}$
DC Current Gain	H_{fe2}	50				$V_{ce}=10\text{V}$ $I_c=1\text{mA}$
DC Current Gain	H_{fe3}	75				$V_{ce}=10\text{V}$ $I_c=10\text{mA}$
DC Current Gain	H_{fe4}	100		300		$V_{ce}=10\text{V}$ $I_c=150\text{mA}$
DC Current Gain	H_{fe5}	40				$V_{ce}=10\text{V}$ $I_c=500\text{mA}$
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$			0.3	V	$I_c=150\text{mA}$ $I_b=15\text{mA}$
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$			1	V	$I_c=500\text{mA}$ $I_b=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{be(sat)}$	0.6		1.2	V	$I_c=150\text{mA}$ $I_b=15\text{mA}$
Base-Emitter Saturation Voltage	$V_{be(sat)}$			2	V	$I_c=500\text{mA}$ $I_b=50\text{mA}$
Output Base Capacitance	C_{ob}			8	PF	$V_{cb}=10\text{V}$ $I_e=0$ $f=1\text{MHz}$
Current Gain-Bandwidth Product	f_T	300			MHz	$V_{ce}=20\text{V}$ $I_c=20\text{mA}$ $f=100\text{MHz}$

* Total Device Dissipation : $FR=1 \times 0.75 \times 0.062$ in Board, Derate 25°C .

Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

DEVICE MARKING: 2SD602LT1=1P