

SOT-23 Plastic-Encapsulate Transistors

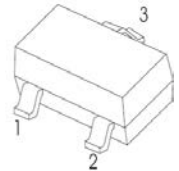
TRANSISTOR (PNP)

FEATURE

- Small Package Low $V_{CE(sat)}$
- High collector current capability I_C and I_{CM}
- High collector current gain (h_{FE}) at high I_C
- High efficiency due to less heat generation
- Required Small Printed-Circuit Board (PCB) area
- Complementary to CB2515

MARKING: 1R

SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-15	V
V_{CEO}	Collector-Emitter Voltage	-15	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-0.5	A
I_{CM}	Collector Current -Peak	-1	A
P_C	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^\circ\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-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	$V_{(BR)CBO}$	$I_C=-0.1\text{mA}, I_E=0$	-15			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-0.1\text{mA}, I_C=0$	-6			V
Collector cut-off current	I_{CEO}	$V_{CE}=-15\text{V}, I_B=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-100	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=-2\text{V}, I_C=-10\text{mA}$	200		500	
	$h_{FE(2)}^*$	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	150		500	
	$h_{FE(3)}^*$	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	90			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-55	mV
	$V_{CE(sat)2}^*$	$I_C=-200\text{mA}, I_B=-10\text{mA}$			-150	mV
	$V_{CE(sat)3}^*$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-250	mV
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1.1	V
Base-emitter voltage	$V_{BE(on)}^*$	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$			-0.9	V
Transition frequency	f_T	$V_{CE}=-5\text{V}, I_C=-100\text{mA}, f=100\text{MHz}$	100			MHz

*Pulse test: pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2.0\%$.

Typical Characteristics

