

RoHS Compliant Product

Features

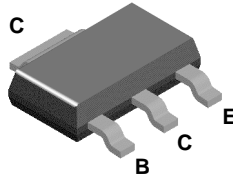
- * 5 Amps continuous current, up to 15 Amp peak current.
- * Excellent gain characteristic specified up to 10Amps.
- * Very low saturation voltage

Mechanical Data

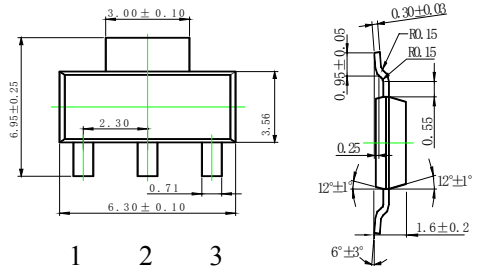
Case: SOT-223 Plastic Package

Weight: approx. 0.021g

Marking Code: 159



SOT-223



1 2 3

1. BASE
2. COLLECTOR
3. EMITTER

Maximum Ratings and Thermal Characteristics

(TA = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Junction Temperature	T _j	+150	°C
Storage Temperature	T _{stg}	-55 to +150	°C
Collector-Base Voltage	V _{CB0}	-100	V
Collector-Emitter Voltage	V _{CEO}	-60	V
Emitter-Base Voltage	V _{EBO}	-6	V
Collector Current (DC)	I _c	-5	A
Collector Current (Pulse)	I _C	-15	A
Total Power Dissipation	P _D	3.0	W

Notes: Device on alumina substrate.

Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Min	Typ.	Max	Uni	Test Conditions
Collector-Base Breakdown Voltage	BV _{CB0}	-100	-	-	V	I _C = -100μA, I _E = 0
Collector-Emitter Breakdown Voltage (w/ Real Device Limit)	BV _{CEr}	-100	-	-	V	I _C = -1μA, R _B = 1KΩ
Collector-Emitter Breakdown Voltage	*BV _{CEO}	-60	-	-	V	I _C = -100mA, I _B = 0
Emitter-Base Breakdown Voltage	BV _{EBO}	-6	-	-	V	I _E = -100μA, I _C = 0
Collector-Base Cutoff Current	I _{CB0}	-	-	-50	nA	V _{CB} = -80V, I _E = 0
Collector-Base Cutoff Current (w/ Real Device Limit)	I _{CER}	-	-	-50	nA	V _{CB} = -80V, R = 1KΩ
Emitter-Base Cutoff Current	I _{EBO}	-	-	-10	nA	V _{EB} = -6V, I _C = 0
Collector Saturation Voltage 1	*V _{CE(sat)1}	-	-20	-50	mV	I _C = -100mA, I _B = -10mA
Collector Saturation Voltage 2	*V _{CE(sat)2}	-	-85	-140	mV	I _C = -1A, I _B = -100mA
Collector Saturation Voltage 3	*V _{CE(sat)3}	-	-155	-210	mV	I _C = -2A, I _B = -200mA
Collector Saturation Voltage 4	*V _{CE(sat)4}	-	-370	-460	mV	I _C = -5A, I _B = -500mA
Base Saturation Voltage	*V _{BE(sat)}	-	-1.08	-1.24	V	I _C = -5A, I _B = -500mA
Base-Emitter Voltage	*V _{BE(on)}	-	-0.935	-1.07	V	V _{CE} = -1V, I _C = -5A
DC Current Gain 1	*h _{FE1}	100	200	-		V _{CE} = -1V, I _C = -10mA
DC Current Gain 2	*h _{FE2}	100	200	300		V _{CE} = -1V, I _C = -2A
DC Current Gain 3	*h _{FE3}	75	90	-		V _{CE} = -1V, I _C = -5A
DC Current Gain 4	*h _{FE4}	10	25	-		V _{CE} = -1V, I _C = -10A
Gain-Bandwidth Product	f _T	-	120	-	MH	V _{CE} = -10V, I _C = -100mA,
Output Capacitance	C _{ob}	-	74	-	pF	V _{CB} = -10V, I _E = 0, f = 1MHz

On-Time	t_{on}	-	82	-	ns	$V_{CE}=-10V, I_C=2A,$ $I_{B1}=I_{B2}=-200mA$
Off-Time	t_{off}	-	350	-		

*Measured under pulse condition. Pulse width $\leq 300\mu s$, Duty Cycle $\leq 2\%$
Spice parameter data is available upon request for this device.

