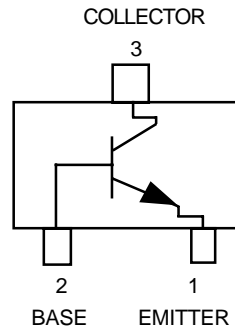
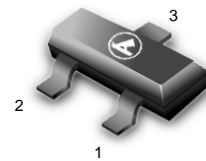


# NPN General Purpose Amplifier Transistors Surface Mount



**MSD601-RT1**  
**MSD601-ST1**



CASE 318D-03, STYLE1  
SC-59

### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Value	Unit
Collector-Base Voltage	V <sub>(BR)CBO</sub>	60	Vdc
Collector-Emitter Voltage	V <sub>(BR)CEO</sub>	50	Vdc
Emitter-Base Voltage	V <sub>(BR)EBO</sub>	7.0	Vdc
Collector Current-Continuous	I <sub>C</sub>	100	mAdc
Collector Current-Peak	I <sub>C(P)</sub>	200	mAdc

### THERMAL CHARACTERISTICS

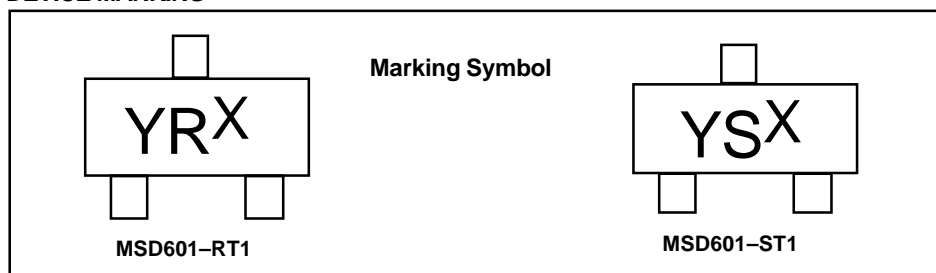
Characteristic	Symbol	Max	Unit
Power Dissipation	P <sub>D</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I <sub>C</sub> = 2.0 mAdc, I <sub>B</sub> = 0)	V <sub>(BR)CEO</sub>	50	—	Vdc
Collector-Base Breakdown Voltage (I <sub>C</sub> = 10 μAdc, I <sub>E</sub> = 0)	V <sub>(BR)CBO</sub>	60	—	Vdc
Emitter-Base Breakdown Voltage (I <sub>E</sub> = 10 μAdc, I <sub>C</sub> = 0)	V <sub>(BR)EBO</sub>	7.0	—	Vdc
Collector-Base Cutoff Current (V <sub>CB</sub> = 45 Vdc, I <sub>E</sub> = 0)	I <sub>CBO</sub>	—	0.1	μAdc
Collector-Emitter Cutoff Current (V <sub>CE</sub> = 10 Vdc, I <sub>B</sub> = 0)	I <sub>CEO</sub>	—	100	nAdc
DC Current Gain <sup>(1)</sup>				—
(V <sub>CE</sub> = 10 Vdc, I <sub>C</sub> = 2.0 mAdc)	MSD601-RT1	h <sub>FE1</sub>	210	340
	MSD601-ST1		290	460
(V <sub>CE</sub> = 2.0 Vdc, I <sub>C</sub> = 100 mAdc)		h <sub>FE2</sub>	90	—
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 100 mAdc, I <sub>B</sub> = 10 mAdc)	V <sub>CE(sat)</sub>	—	0.5	Vdc

1. Pulse Test: Pulse Width ≤ 300 μs, D.C. < 2%.

### DEVICE MARKING



The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.