

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

**SOT-223**

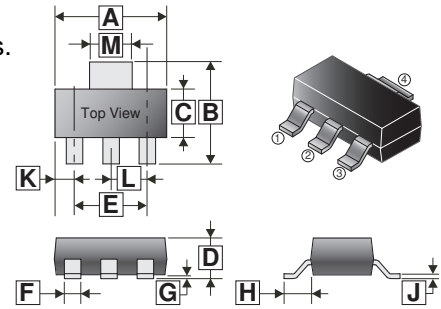
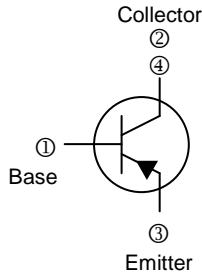
### APPLICATION

PZT949 is designed for general purpose switching and amplifier applications.

### FEATURES

- 6Amps continuous current, up to 20Amps pulse current
- Very low saturation voltage

### MARKING



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.30	6.70	G	0.02	0.10
B	6.70	7.30	H	1.50	2.00
C	3.30	3.70	J	0.25	0.35
D	1.42	1.90	K	0.85	1.05
E	4.60 REF.		L	2.30 REF.	
F	0.60	0.80	M	2.90	3.10

### MAXIMUM RATINGS\* (Tamb=25 °C, unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Collector to Base Voltage	$V_{CBO}$	-50	V
Collector to Emitter Voltage	$V_{CEO}$	-30	V
Emitter to Base Voltage	$V_{EBO}$	-6	V
Collector Current (DC)	$I_C$	-5.5	A
Collector Current (Pulse)	$I_{CM}$	-20	A
Total Power Dissipation	$P_D$	3	W
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	°C

\*The power which can be dissipated assuming the device is mounted in typical manner on a PCB with copper equal to 2 inches x 2 inches

### ELECTRICAL CHARACTERISTICS (Tamb=25 °C unless otherwise specified)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
Collector - Base Breakdown Voltage	$BV_{CBO}$	-50	-	-	V	$I_C = -100\mu A, I_E = 0$	
Collector - Emitter Breakdown Voltage (With Real Device Limit)	$BV_{CER}$	-50	-	-	V	$I_C = -1\mu A, R_B \leq 1K\Omega$	
Collector - Emitter Breakdown Voltage	$BV_{CEO}$	-30	-	-	V	$I_C = -10mA, I_B = 0$	
Emitter - Base Breakdown Voltage	$BV_{EBO}$	-6	-	-	V	$I_E = -100\mu A, I_C = 0$	
Collector Base Cut - Off Current	$I_{CBO}$	-	-	-50	nA	$V_{CB} = -40V, I_E = 0$	
Collector Base Cut - Off Current (With Real Device Limit)	$I_{CER}$	-	-	-50	nA	$V_{CB} = -40V, R \leq 1K\Omega$	
Emitter Base Cut - Off Current	$I_{EBO}$	-	-	-10	nA	$V_{EB} = -6V, I_C = 0$	
Collector - Emitter Saturation Voltage	$*V_{CE(sat)1}$	-	-	-75	mV	$I_C = -0.5A, I_B = -20 mA$	
	$*V_{CE(sat)2}$	-	-	-140	mV	$I_C = -1.0A, I_B = -20 mA$	
	$*V_{CE(sat)3}$	-	-	-270	mV	$I_C = -2.0A, I_B = -200 mA$	
	$*V_{CE(sat)4}$	-	-	-440	mV	$I_C = -5.5A, I_B = -500 mA$	
Base - Emitter Voltage	$*V_{BE(sat)}$	-	-	-1.25	V	$I_C = -5.5A, I_B = -500 mA$	
	$*V_{BE(on)}$	-	-	-1.06	V	$V_{CE} = -1V, I_C = -5.5 A$	
DC Current Gain	$*h_{FE1}$	100	-	-		$V_{CE} = -1V, I_C = -10 mA$	
	$*h_{FE2}$	100	-	300		$V_{CE} = -1V, I_C = -1 A$	
	$*h_{FE3}$	75	-	-		$V_{CE} = -1V, I_C = -5 A$	
	$*h_{FE4}$	-	35	-		$V_{CE} = -2V, I_C = -20 A$	
Transition Frequency	$f_T$	-	100	-	MHz	$V_{CE} = -10V, I_C = -100mA, f = 50 MHz$	
Collector Output Capacitance	$C_{OB}$	-	122	-	pF	$V_{CB} = -10 V, I_E = 0, f = 1 MHz$	
Switching Time	Turn-on	$t_{ON}$	-	120	-	nS	$V_{CC} = -10 V, I_C = -4 A,$ $I_{B1} = -I_{B2} = -400 mA$
	Turn-off	$t_{OFF}$	-	130	-	nS	

\*Measured under pulse condition. Pulse width = 300µs, duty cycle ≤ 2%.

**CHARACTERISTIC CURVES**

