

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

SOT-223

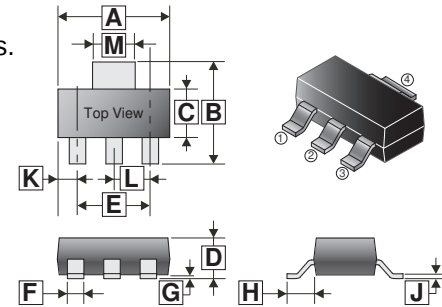
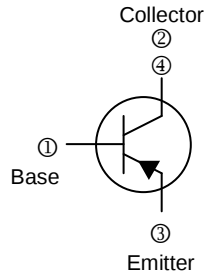
APPLICATION

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	$I_C = -0.5A, I_B = -20mA$
	$*V_{CE(sat)2}$	-	-	-140	mV	$I_C = -1.0A, I_B = -20mA$
	$*V_{CE(sat)3}$	-	-	-270	mV	$I_C = -2.0A, I_B = -200mA$
	$*V_{CE(sat)4}$	-	-	-440	mV	$I_C = -5.5A, I_B = -500mA$
Base - Emitter Voltage	$*V_{BE(sat)}$	-	-	-1.25	V	$I_C = -5.5A, I_B = -500mA$
	$*V_{BE(on)}$	-	-	-1.06	V	$V_{CE} = -1V, I_C = -5.5A$
DC Current Gain	$*h_{FE1}$	100	-	-		$V_{CE} = -1V, I_C = -10mA$
	$*h_{FE2}$	100	-	300		$V_{CE} = -1V, I_C = -1A$
	$*h_{FE3}$	75	-	-		$V_{CE} = -1V, I_C = -5A$
	$*h_{FE4}$	-	35	-		$V_{CE} = -2V, I_C = -20A$
Transition Frequency	f_T	-	100	-	MHz	$V_{CE} = -10V, I_C = -100mA, f = 50MHz$
Collector Output Capacitance	C_{OB}	-	122	-	pF	$V_{CB} = -10V, I_E = 0, f = 1MHz$
Switching Time	Turn-on	t_{ON}	-	120	nS	$V_{CC} = -10V, I_C = -4A, I_{B1} = -I_{B2} = -400mA$
	Turn-off	t_{OFF}	-	130	nS	

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

CHARACTERISTIC CURVES

