

T-37-23

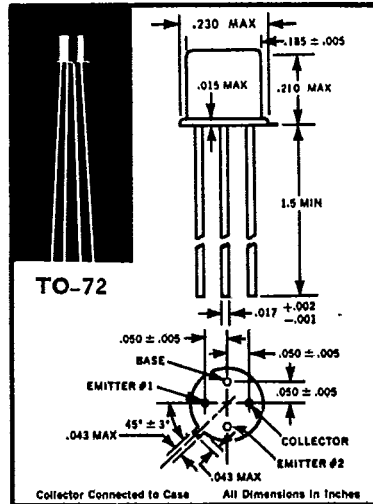


**PREMIUM PERFORMANCE
LOW_{ree} (sat)
SILICON EPITAXIAL JUNCTION
INTEGRATED CHOPPER TRANSISTORS**

3N129
3N130
3N131
3N132
3N133

GEOMETRY 450

- **ULTRA LOW r_{ee} (sat), 8 Ohms TYP.**
- **LOW C_{cb} & C_{ee} , 2.5 pfd TYP.**
- **LOW LEAKAGE, 0.5 nA MAX.**
- **HIGH V_{EE} & V_{EB} , UP TO 50 V**



ELECTRICAL DATA ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	3N129	3N130	3N131	3N132	3N133	UNITS
Collector to Base Voltage	BV_{CBO}	-20	-30	-40	-50	-60	Volts
Emitter (1) to Base Voltage	BV_{E1BO}	-10	-20	-30	-40	-50	Volts
Emitter (2) to Base Voltage	BV_{E2BO}	-10	-20	-30	-40	-50	Volts
Emitter to Emitter Voltage	BV_{E1E2O}	10	20	30	40	50	Volts
Emitter (1) to Collector Voltage	BV_{E1CO}	10	20	30	40	50	Volts
Emitter (2) to Collector Voltage	BV_{E2CO}	10	20	30	40	50	Volts
Power Diss. @ 25°C Ambient	P_D	300 (Derating 1.7 mW/°C)					mW
Junction Temp. (Oper. & Store)	T_J	-65°C to +200°C					
Lead Temp. @ 1/16" from Case	T_L	240°C for 10 sec.					

ELECTRICAL CHARACTERISTICS: $T_A = 25^\circ\text{C}$ (UNLESS OTHERWISE STATED)

Parameter	Symbol	Condition	3N129 — 3N133		Units
			Typ.	Max.	
Offset Voltage	V_{E1E2O}	$I_B = 1.0 \text{ mA}$	15	30	μV
Offset Voltage Change	ΔV_{E1E2O}	$I_B = 1.0 \text{ mA}$ TEMP = -25°C to +100°C	25	50	μV
Offset Voltage Change	ΔV_{E1E2O}	$\Delta I_B = 0.5 \text{ to } 1.5 \text{ mA}$	5	10	μV
Saturation Resistance	$r_{e1,e2}(\text{sat})$	$I_B = 1.0 \text{ mA}, I_{EE} = 0, I_E = 0.1 \text{ mA}$ $f = 1 \text{ kHz}$	8	15	Ohms
Collector Cutoff Current	I_{CBO}	$V_{CB} = V_{CB} \text{ MAX.}$	0.5	1.0	nA
Emitter Cutoff Current	I_{E1BO} I_{E2BO}	$V_{EB} = V_{EB} \text{ MAX.}$	0.5	1.0	nA
Emitter Cutoff Current	I_{E1E2O}	$V_{EE} = V_{EE} \text{ MAX.}, V_{CB} = 0 \text{ (shorted)}$	0.08	0.3	nA
Emitter Cutoff Current	I_{E1E2O}	$V_{EE} = V_{EE} \text{ MAX.}$ TEMP = 100°C	10.0	25.0	nA
Emitter to Base Capacitance	$C_{e,b}$ $C_{e,b}$	$V_{EB} = 5 \text{ V}, I_C = 0$ $f = 159 \text{ kHz}$	2.5	4.0	pfd
Emitter to Emitter Capacitance	C_{e,e_2}	$V_{EE} = 5 \text{ V}, I_C = 0$ $f = 159 \text{ kHz}$	2.5	4.0	pfd
Collector Base Capacitance	C_{ob}	$V_{CB} = 5 \text{ V}, I_C = 0, f = 159 \text{ kHz}$	6.0	10.0	pfd

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