

# SOT89 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

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## FEATURES

- \* 400 Volt  $V_{CE0}$
- \*  $P_{tot} = 1$  Watt

COMPLEMENTARY TYPE – FCX558  
PARTMARKING DETAIL – N58

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	400	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	225	mA
Peak Pulse Current	$I_{CM}$	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	1	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-65 to +150	$^{\circ}C$

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	400		V	$I_C = 100\mu A$
	$V_{CEO(sus)}$	400		V	$I_C = 10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E = 100\mu A$
Collector Cut-Off Currents	$I_{CBO}$		100	nA	$V_{CB} = 320V$
	$I_{CES}$		100	nA	$V_{CE} = 320V$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB} = 4V$
Emitter Saturation Voltages	$V_{CE(sat)}$	0.2		V	$I_C = 20mA, I_B = 2mA^*$
		0.5		V	$I_C = 50mA, I_B = 6mA^*$
	$V_{BE(sat)}$	0.9		V	$I_C = 50mA, I_B = 5mA^*$
Base-Emitter Turn On Voltage	$V_{BE(on)}$		0.9	V	$I_C = 50mA, V_{CE} = 10V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100			$I_C = 1mA, V_{CE} = 10V$
		100	300		$I_C = 50mA, V_{CE} = 10V^*$
		15			$I_C = 100mA, V_{CE} = 10V^{**}$
Transition Frequency	$f_T$	50		MHz	$I_C = 10mA, V_{CE} = 20V$ $f = 20MHz$
Collector-Base Breakdown Voltage	$C_{obo}$		5	pF	$V_{CB} = 20V, f = 1MHz$
Switching times	$t_{on}$	135 Typical		ns	$I_C = 50mA, V_C = 100V$
	$t_{off}$	2260 Typical		ns	$I_{B1} = 5mA, I_{B2} = -10mA$

\* Measured under pulsed conditions. Pulse width=300 $\mu$ s. Duty cycle  $\leq$  2%  
Spice parameter data is available upon request for this device  
For typical characteristics graphs see FMMT458 datasheet



FCX458

