

# 2N 5368 through 2N 5375

COMPLEMENTARY SILICON GENERAL PURPOSE AMPLIFIERS AND SWITCHES

THE ABOVE TYPES ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE AMPLIFIERS AND MEDIUM SPEED SWITCHING APPLICATIONS.

CASE TO-92F



### ABSOLUTE MAXIMUM RATINGS

	2N5368 (NPN)	2N5372 (PNP)	2N5371 (NPN)
Collector-Base Voltage	60V	60V	40V
Collector-Emitter Voltage	30V	30V	30V
Emitter-Base Voltage	5V	5V	5V
Collector Current	500mA	500mA	500mA
Total Power Dissipation ( $T_A \leq 25^\circ\text{C}$ )	500mW **		
	derate 4mW/°C above 25°C		

Operating Junction & Storage Temperature  $T_j, T_{stg}$

-55 to 150°C

\*\* 360mW in JEDEC registration.

### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	$BV_{CBO}$	↑ Note 1 ↓			V	$I_C=0.01\text{mA}$ $I_E=0$
Collector-Emitter Breakdown Voltage	$LV_{CEO} *$				V	$I_C=10\text{mA}$ $I_B=0$
Emitter-Base Breakdown Voltage	$BV_{EBO}$				V	$I_E=0.01\text{mA}$ $I_C=0$
Collector Cutoff Current	$I_{CBO}$				nA	$V_{CB}=40\text{V}$ $I_E=0$
				50	nA	$V_{CB}=40\text{V}$ $I_E=0$
				50	nA	$V_{CB}=30\text{V}$ $I_E=0$
Emitter Cutoff Current	$I_{EBO}$			50	nA	$V_{EB}=3\text{V}$ $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)} *$		0.18	0.3	V	$I_C=150\text{mA}$ $I_B=15\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)} *$		0.84	1.3	V	$I_C=150\text{mA}$ $I_B=15\text{mA}$
Base-Emitter Voltage	$V_{BE} *$		0.8	1.2	V	$I_C=150\text{mA}$ $V_{CE}=10\text{V}$
Current Gain-Bandwidth Product	$f_T$				MHz	$I_C=20\text{mA}$ $V_{CE}=10\text{V}$
		250	370		MHz	$I_C=20\text{mA}$ $V_{CE}=10\text{V}$
Collector-Base Capacitance	$C_{cb}$				pF	$V_{CB}=10\text{V}$ $I_E=0$
				8	pF	$f=1\text{MHz}$
				10	pF	

Note 1 : Equal to the values of absolute maximum ratings.

\* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%

For p-n-p devices, voltage and current values are negative.

**MICRO ELECTRONICS LTD.**

38 HUNG TO ROAD, KWUN TONG, HONG KONG. TELEX 43510  
KWUN TONG P. O. BOX 69477 CABLE ADDRESS "MICROTRON"  
TELEPHONE:- 3-430181-6 3-898363, 3-892423

FAX: 3-410321

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