

CentralTM Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA

Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N2369A T0-18 CASE
2N5769 T0-92 CASE (EBC)
PN2369A T0-92 CASE (EBC)

NPN SILICON TRANSISTORS

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2369A, 2N5769, PN2369A types are silicon NPN epitaxial planar transistors designed for ultra high speed saturated switching applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	2N2369A	2N5769 PN2369A	UNIT
Collector-Base Voltage	V_{CB0}	40	40	V
Collector-Emitter Voltage	V_{CES}	40	40	V
Collector-Emitter Voltage	V_{CEO}	15	15	V
Emitter-Base Voltage	V_{EBO}	4.5	4.5	V
Collector Current	I_C	200	200	mA
Collector Current (PEAK)	I_{CM}	500	500	mA
Power Dissipation	P_D	360	625	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	1.2	1.5	W
Operating and Storage Junction Temperature (T0-18)	T_J, T_{STG}	-65 TO +200		$^\circ\text{C}$
Operating and Storage Junction Temperature (T0-92)	T_J, T_{STG}	-65 TO +150		$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CBO}	$V_{CB}=20V$		400	nA
I_{CBO}	$V_{CB}=20V, T_A=150^\circ\text{C}$ (2N2369A ONLY)		30	μA
BV_{CBO}	$I_C=10\mu\text{A}$	40		V
BV_{CES}	$I_C=10\mu\text{A}$	40		V
BV_{CEO}	$I_C=10\text{mA}$	15		V
BV_{EBO}	$I_E=10\mu\text{A}$	4.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.20	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}, T_A=125^\circ\text{C}$ (2N2369A ONLY)		0.30	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.25	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.50	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.70	0.85	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		1.15	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.60	V
h_{FE}	$V_{CE}=0.35V, I_C=10\text{mA}$	40	120	
h_{FE}	$V_{CE}=0.35V, I_C=10\text{mA}, T_A=-55^\circ\text{C}$ (2N2369A ONLY)	20		
h_{FE}	$V_{CE}=0.40V, I_C=30\text{mA}$	30		
h_{FE}	$V_{CE}=1.0V, I_C=100\text{mA}$	20		
f_T	$V_{CE}=10V, I_C=10\text{mA}, f=100\text{MHz}$	500		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=140\text{kHz}$		4.0	pF
t_{ON}	$V_{CC}=3.0V, I_C=10\text{mA}, I_{B1}=3.0\text{mA}$		12	ns
t_{OFF}	$V_{CC}=3.0V, I_C=10\text{mA}, I_{B1}=3.0\text{mA}, I_{B2}=-1.5\text{mA}$		18	ns
τ_s	$V_{CC}=10V, I_C=10\text{mA}, I_{B1}=I_{B2}=10\text{mA}$		13	ns