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Manufacturers of World Class Discrete Semiconductors

TIP32
TIP32A
TIP32B
TIP32C

SILICON PNP POWER TRANSISTOR
3 AMPS, 40 WATTS

JEDEC TO-220 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR TIP32 Series is a PNP Epitaxial-Base Silicon Power Transistor designed for power amplifier and high-speed switching applications.

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

	SYMBOL	TIP32	TIP32A	TIP32B	TIP32C	UNIT
Collector-Base Voltage	V_{CB0}	40	60	80	100	V
Emitter-Base Voltage	V_{EB0}	5.0	5.0	5.0	5.0	V
Collector-Emitter Voltage	V_{CE0}	40	60	80	100	V
Collector Current, Continuous	I_C	3.0	3.0	3.0	3.0	A
Collector Current, Peak	I	5.0	5.0	5.0	5.0	A
Base Current	I_B	1.0	1.0	1.0	1.0	A
Power Dissipation	P_D	40	40	40	40	W
Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_D	2.0	2.0	2.0	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 TO +150		-65 TO +150		$^{\circ}\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CE0}	$V_{CE}=30\text{V}$ (TIP32, TIP32A)		0.3	mA
I_{CE0}	$V_{CE}=60\text{V}$ (TIP32B, TIP32C)		0.3	mA
I_{CES}	$V_{CE}=\text{Rated } V_{CE0}$		0.2	mA
I_{EBO}	$V_{EB}=5.0\text{V}$		1.0	mA
BV_{CE0}	$I_C=30\text{mA}$, (TIP32)	40		V
BV_{CE0}	$I_C=30\text{mA}$, (TIP32A)	60		V
BV_{CE0}	$I_C=30\text{mA}$, (TIP32B)	80		V
BV_{CE0}	$I_C=30\text{mA}$, (TIP32C)	100		V
$V_{CE}(\text{SAT})$	$I_C=3.0\text{A}$, $I_B=375\text{mA}$		1.2	V
$V_{BE}(\text{on})$	$V_{CE}=4.0\text{V}$, $I_C=3.0\text{A}$		1.8	V
h_{FE}	$V_{CE}=4.0\text{V}$, $I_C=1.0\text{A}$	25		-
h_{FE}	$V_{CE}=4.0\text{V}$, $I_C=3.0\text{A}$	10	50	-
h_{fe}	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$, $f=1\text{ kHz}$	20		-
f_T	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$, $f=1\text{ MHz}$	3		MHz
t_{on}	$I_C=1.0\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$, $R_L=30\text{ OHMS}$	0.3 TYP		μSEC
t_{off}	$I_C=1.0\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$, $R_L=30\text{ OHMS}$	1.0 TYP		μSEC