FAIRCHILD
A Schlumberger Company

MPS3392/FTSO3392
MPS3393/FTSO3393

NPN Small Signal General Purpose Amplifiers

T-29-23

- V_{CEO} ... 25 V (Min)
- h_{FE} ... 150-300 (MPS/FTSO3392), 90-180 (MPS/FTSO3393) @ 2.0 mA
- Complements ... 2N4125, 2N4126

PACKAGE	
MPS3392	TO-92
MPS3393	TO-92
FTSO3392	TO-236AA/AB
FTSO3393	TO-236AA/AB

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

Storage Temperature	-55° to 150° C
Operating Junction Temperature	150° C

Power Dissipation (Notes 2 & 3)

Total Dissipation at	MPS	FTSO
25° C Ambient Temperature	0.625 W	0.350 W*
70° C Ambient Temperature	0.400 W	
25° C Case Temperature	1.0 W	

Voltages & Currents

V_{CEO}	Collector to Emitter Voltage (Note 4)	25 V
V_{CBO}	Collector to Base Voltage	25 V
V_{EBO}	Emitter to Base Voltage	5.0 V
I_C	Collector Current	100 mA

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	3392 MIN	3392 MAX	3393 MIN	3393 MAX	UNITS	TEST CONDITIONS
BV_{CEO}	Collector to Emitter Breakdown Voltage	25		25		V	I_C = 1.0 mA, I_B = 0
I_{EBO}	Emitter Cutoff Current		100		100	nA	V_{EB} = 5.0 V, I_C = 0
I_{CBO}	Collector Cutoff Current		100		100	nA	V_{CB} = 18 V, I_E = 0
h_{FE}	DC Current Gain (Note 5)	150	300	90	180		I_C = 2.0 mA, V_{CE} = 4.5 V
C_{ob}	Output Capacitance		3.5		3.5	pF	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz
h_{fe}	Small Signal Current Gain	150	500	90	400		I_C = 2.0 mA, V_{CE} = 4.5 V, f = 1.0 kHz

NOTES:

1. These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations
3. These ratings give a maximum junction temperature of 150° C and (TO-92) junction-to-case thermal resistance of 125° C/W (derating factor of 8.0 mW/° C), junction-to-ambient thermal resistance of 200° C/W (derating factor of 5.0 mW/° C); (TO-236) junction-to-ambient thermal resistance of 357° C/W (derating factor of 2.8 mW/° C).
4. Rating refers to a high current point where collector to emitter voltage is lowest.
5. Pulse conditions: length = 300 μs, duty cycle = 1%
6. For product family characteristic curves, refer to Curve Set T144.