


MPSA55/FTSOA55
MPSA56/FTSOA56

T-29-23

 PNP Small Signal General Purpose
 Complementary Amplifiers

- $V_{CEO} \dots -60 \text{ V (Min) (MPS/FTSOA55),}$
 $-80 \text{ V (Min) (MPS/FTSOA56)}$
- $h_{FE} \dots 50 \text{ (Min) @ } 100 \text{ mA}$
- $V_{CE(sat)} \dots -0.25 \text{ V (Max) @ } 100 \text{ mA}$
- Complements ... MPS/FTSOA05, MPS/FTSOA06 (NPN)

PACKAGE

MPSA55	TO-92
MPSA56	TO-92
FTSOA55	TO-236AA/AB
FTSOA56	TO-236AA/AB

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature	-55° C 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

	A55	A56
V_{CEO} Collector to Emitter Voltage (Note 4)	-60 V	-80 V
V_{CBO} Collector to Base Voltage	-60 V	-80 V
V_{EBO} Emitter to Base Voltage	-4.0 V	-4.0 V
I_C Collector Current	500 mA	500 mA

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

SYMBOL	CHARACTERISTIC	A55		A56		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
BV_{CEO}	Collector to Emitter Breakdown Voltage	-60		-80		V	$I_C = 1.0 \text{ mA}, I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	-4.0		-4.0		V	$I_E = 100 \mu\text{A}, I_C = 0$
I_{CBO}	Collector Cutoff Current		100		100	nA	$V_{CB} = -60 \text{ V}, I_E = 0$ $V_{CB} = -80 \text{ V}, I_E = 0$

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
 - These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
 - 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).
 - Rating refers to a high current point where collector to emitter voltage is lowest.
 - Pulse conditions: length = 300 μs ; duty cycle = 1%.
 - For product family characteristic curves, refer to Curve Set T224.
- * Package mounted on 99.5% alumina 8 mm x 8 mm x 0.6 mm.

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

SYMBOL	CHARACTERISTIC	A55		A56		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
h_{FE}	DC Current Gain (Note 5)	50		50			$I_C = 10 \text{ mA}$, $V_{CE} = -1.0 \text{ V}$ $I_C = 100 \text{ mA}$, $V_{CE} = -1.0 \text{ V}$
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Note 5)		-0.25		-0.25	V	$I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$
$V_{BE(on)}$	Base to Emitter "On" Voltage		-1.2		-1.2	V	$I_C = 100 \text{ mA}$, $V_{CE} = -1.0 \text{ V}$
f_T	Current Gain Bandwidth Product	50		50		MHz	$I_C = 100 \text{ mA}$, $V_{CE} = -1.0 \text{ V}$, $f = 100 \text{ MHz}$