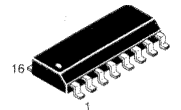


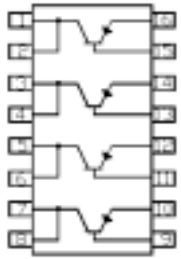
TECHNICAL DATA

NPN GENERAL PURPOSE QUAD TRANSISTOR

500 mAMPERE
30-40 VOLTS
0.52-8.0 WATTS



SOIC
16 PIN QUAD



MAXIMUM RATINGS

Ratings	Symbol	MMPQ2222	MMPQ2222A	Unit
Collector-Emitter Voltage	V_{CE0}	30	40	Vdc
Collector-Base Voltage	V_{CB}	60	75	Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Collector Current -- Continuous	I_C	500		mAdc
		Each Transistor	Four Transistors Equal Power	
Total Power Dissipation @ $T_A = 25^{\circ}C$ Derate above $25^{\circ}C$	P_D	0.52 4.2	1.0 8.0	W mW/ $^{\circ}C$
Total Power Dissipation @ $T_C = 25^{\circ}C$ Derate above $25^{\circ}C$	P_D	0.8 6.4	2.4 19.2	W mW/ $^{\circ}C$
Operating & Storage Junction Temp. Range	T_J, T_{stg}	-55 to +150		$^{\circ}C$

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

Characteristics	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ⁽¹⁾ $I_C = 10$ mAdc, $I_B = 0$	MMPQ2222 MMPQ2222A	$V_{(BR)CEO}$	30 40	- -	- -	Vdc
Collector-Base Breakdown Voltage $I_C = 10$ μ Adc, $I_E = 0$	MMPQ2222 MMPQ2222A	$V_{(BR)CBO}$	60 75	- -	- -	Vdc
Emitter-Base Breakdown Voltage $I_B = 10$ μ Adc, $I_C = 0$		$V_{(BR)EBO}$	5.0	-	-	Vdc
Collector Cutoff Current $V_{CB} = 50$ Vdc, $I_E = 0$ $V_{CB} = 60$ Vdc, $I_E = 0$	MMPQ2222 MMPQ2222A	I_{CBO}	- -	- -	50 10	η Adc
Emitter Cutoff Current $V_{BE} = 3.0$ Vdc, $I_C = 0$	MMPQ2222 MMPQ2222A	I_{EBO}	- -	- -	50 10	η Adc

ON CHARACTERISTICS

DC Current Gain ⁽¹⁾ $I_C = 100$ μ Adc, $V_{CE} = 10$ Vdc $I_C = 1.0$ mAdc, $V_{CE} = 10$ Vdc $I_C = 10$ mAdc, $V_{CE} = 10$ Vdc $I_C = 150$ mAdc, $V_{CE} = 10$ Vdc $I_C = 300$ mAdc, $V_{CE} = 10$ Vdc $I_C = 500$ mAdc, $V_{CE} = 10$ Vdc $I_C = 150$ mAdc, $V_{CE} = 1.0$ Vdc	MMPQ2222A MMPQ2222A MMPQ2222, MMPQ2222A MMPQ2222, MMPQ2222A MMPQ2222 MMPQ2222A MMPQ2222A	h_{FE}	35 50 75 100 30 40 50	- - - - - - -	- - - - 300 - -	-
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MMPQ2222, MMPQ2222A

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Typ.	Max.	Unit
ON CHARACTERISTICS (con't)					
Collector-Emitter Saturation Voltage ⁽¹⁾ I _C = 150 mA _{dc} , I _B = 15 mA _{dc}	V _{CE(sat)}	-	-	0.4	Vdc
MMPQ2222		-	-	0.3	
MMPQ2222A		-	-	1.6	
I _C = 300 mA _{dc} , I _B = 30 mA _{dc}		-	-	1.0	
I _C = 500 mA _{dc} , I _B = 50 mA _{dc}					
Base-Emitter Saturation Voltage ⁽¹⁾ I _C = 150 mA _{dc} , I _B = 15 mA _{dc}	V _{BE(sat)}	-	-	1.3	Vdc
MMPQ2222		-	-	1.2	
MMPQ2222A		-	-	2.6	
I _C = 300 mA _{dc} , I _B = 30 mA _{dc}		-	-	2.0	
I _C = 500 mA _{dc} , I _B = 50 mA _{dc}					

DYNAMIC CHARACTERISTICS

Current-Gain – Bandwidth Product ⁽¹⁾ I _C = 20 mA _{dc} , V _{CE} = 20 Vdc, f = 100 MHz	f _T	-	350	-	MHz
Output Capacitance V _{CB} = 10 Vdc, I _E = 0, f = 100 kHz	C _{obo}	-	4.5	-	pF
Input Capacitance V _{BE} = 0.5 Vdc, I _C = 0, f = 100 kHz	C _{ibo}	-	17	-	pF

SWITCHING CHARACTERISTICS

Turn-On Time V _{CC} = 30 Vdc; V _{BE(off)} = 0.5 Vdc, I _C = 150 mA _{dc} ; I _{B1} = 15 mA _{dc}	t _{on}	-	25	-	ηs
Turn-Off Time V _{CC} = 30 Vdc; I _C = 150 mA _{dc} ; I _{B1} = I _{B2} = 15 mA _{dc}	t _{off}	-	250	-	ηs

(1) Pulse Test: Pulse Width ≤ 300μs, Duty Cycle = 2.0%