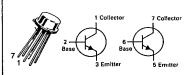
96D 82384 T-29-27

2N2721

CASE 654-07, STYLE 1



DUAL AMPLIFIER TRANSISTOR

NPN SILICON

Refer to 2N2060 for graphs.

MAXIMUM RATINGS

Rating	Symbol	Value		Unit	
Collector-Emitter Voltage	VCEO	60		Vdc	
Collector-Base Voltage	VCBO	80		Vdc	
Emitter-Base Voltage	VEBO	6.0		Vdc	
Collector Current — Continuous	lc	40		mAdc	
		One Die	Both Die		
Total Device Dissipation @ T _A = 25°C Derate above 25°C	PD	0.3 1.71	0.6 3.4	Watt mW/°C	
Total Device Dissipation @ T _C = 25°C Derate above 25°C	PD	0.6 3.4	1.2 6.8	Watt mW/°C	
Operating and Storage Junction Temperature Range	TJ, Tstg	-65 to +200		°C	

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) (IC = 10 mAdc, IB = 0)	V(BR)CEO	60		Vdc
Collector Cutoff Current (VCE = 5.0 Vdc, IB = 0)	ICEO		10	nAdc
Collector Cutoff Current (V _{CB} = 60 Vdc, I _E = 0) (V _{CB} = 60 Vdc, I _E = 0, T _A = 150°C)	ІСВО		0.01 10	μAdc
Emitter Cutoff Current (VEB = 5.0 Vdc, IC = 0)	IEBO		10	nAdc
ON CHARACTERISTICS				
DC Current Gain (I _C = 100 μAdc, V _{CE} = 5.0 Vdc)	hFE	30	120	
(I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc) (I _C = 10 mAdc, V _{CE} = 5.0 Vdc)		35 42	_	
Collector-Emitter Saturation Voltage (IC = 10 mAdc, IB = 1.0 mAdc)	V _{CE(sat)}		1.0	Vdc
Base-Emitter Saturation Voltage (IC = 10 mAdc, IB = 1.0 mAdc)	V _{BE(sat)}	0.65	0.85	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product (IC = 10 mAdc, VCE = 10 Vdc, f = 20 MHz)	fτ	80		MHz
Output Capacitance (VCB = 5.0 Vdc, IE = 0, f = 1.0 MHz)	C _{obo}		6.0	ρF
input Impedance (I _E = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz)	hib	25	32	ohms
Voltage Feedback Ratio (I _E = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz)	h _{rb}		500	X 10-
Small-Signal Current Gain (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{fe}	30	200	
Output Admittance (IE = 1.0 mAdc, VCB = 5.0 Vdc, f = 1.0 kHz)	hob	_	1.0	μmho

DC Current Gain Ratio(2) (I _C = 100 μ Adc, V _{CE} = 5.0 Vdc)	hFE1/hFE2			_
		0.8	1.0	
Base-Emitter Voltage Differential (I _C = 100 μAdc, V _{CE} = 5.0 Vdc)	VBE1−VBE2			mVdc
			10	
Base-Emitter Voltage Differential Change Due to Temperature (I _C = 100 μ Adc, V _{CE} = 5.0 Vdc, T _A = -55 to $+25$ °C)	Δ(V _{BE1} -V _{BE2})			mV
		_	1.6	
$(I_C = 100 \ \mu Adc, V_{CE} = 5.0 \ Vdc, T_A = +25 \ to +125°C)$		_	2.0	

(1) Pulse Test: Pulse Width \leq 300 μ s, Duty Cycle \leq 2.0%. (2) The lower of the two hFE readings is taken as hFE1 for the purpose of measurement.

MOTOROLA SMALL-SIGNAL SEMICONDUCTORS

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