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T-29-29

2N2723

CASE 20-03, STYLE 8
TO-72 (TO-206AF)

DARLINGTON TRANSISTOR
NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage (Base 1 and Base 2 open)	V _{CE2O}	60	Vdc
Collector-Base Voltage	V _{CB1}	80	Vdc
Emitter-Base Voltage	V _{E2B1}	12	Vdc
Collector Current — Continuous	I _C	40	Adc
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	0.5 2.9	Watt mW/°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	1.8 10.5	Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200	°C

Refer to 2N398 for graphs.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) (I _C = 10 mAdc, I _{B1} = 0)	V _{(BR)CE2O}	60	—	Vdc
Collector-Base Breakdown Voltage (I _C = 10 μAdc, I _{E2} = 0)	V _{(BR)CB1O}	80	—	Vdc
Emitter-Base Breakdown Voltage (I _{E2} = 10 μAdc, I _C = 0)	V _{(BR)E2B1O}	12	—	Vdc
Collector Cutoff Current (V _{CB1} = 60 Vdc, I _E = 0) (V _{CB1} = 60 Vdc, I _E = 0, T _A = 150°C)	I _{CB1O}	—	0.01 10	μAdc
Emitter Cutoff Current (V _{B1E2} = 10 Vdc, I _C = 0)	I _{E2B1O}	—	10	nAdc
ON CHARACTERISTICS				
DC Current Gain (I _C = 10 mAdc, V _{CE2} = 5.0 Vdc, I _{B2} = 0)	h _{FE}	2000	10,000	—
Collector-Emitter Saturation Voltage (I _C = 10 mAdc, I _{B1} = 1.0 mAdc)	V _{CE2(sat)}	—	1.0	Vdc
Base-Emitter Saturation Voltage (I _C = 10 mAdc, I _{B1} = 1.0 mAdc)	V _{BE2(sat)}	—	1.7	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance (V _{CB1} = 10 Vdc, I _{E2} = 0, f = 140 kHz)	C _{ob1o}	—	10	pF
Small-Signal Current Gain (I _C = 10 mAdc, V _{CE2} = 5.0 Vdc, f = 1.0 kHz)	h _{fe}	1500	15,000	—
Current Gain — Bandwidth Product (Each Unit) (I _C = 10 mAdc, V _{CE1} or V _{CE2} = 10 Vdc, f = 20 MHz)	h _{fe} f	5.0	—	—
Noise Figure (Input Stage Only) (I _C = 50 μAdc, V _{CE} = 5.0 Vdc, R _S = 3.0 kohms, f = 1.0 kHz, BW = 100 Hz)	NF	—	10	dB

(1) Pulse Test: Pulse Width ≤ 12 ms, Duty Cycle ≤ 2.0%.