MCH2005F

POWER DRIVER

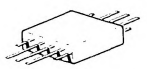
Advance Information

DARLINGTON POWER DRIVER

. . . designed for applications requiring large current pulses for a short duration.

- High Current Gain – h_{FE} = 1000 (Min) @ I_C = 5.0 A
- High Speed Saturated Switch –
  t_{on} = 350 ns (Max) @ I_C = 5.0 A
  t_{off} = 450 ns (Max) @ I_C = 5.0 A

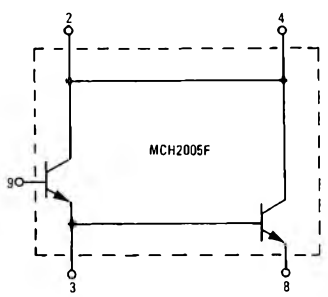
DARLINGTON POWER DRIVER HYBRID MICROCIRCUIT



CERAMIC PACKAGE
CASE 628
TO-91

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	30	Vdc
Collector-Base Voltage	V_{CB}	50	Vdc
Emitter-Base Voltage	V_{EB}	7.0	Vdc
Collector Current – Continuous	I_C	6.0	Adc
Total Device Dissipation @ T_A = 25°C Derate above T_A = 25°C	P_D	500 2.86	mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above T_A = 25°C	P_D	5.0 28.6	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	°C



This is advance information and specifications are subject to change without notice.

See Packaging Information Section for outline dimensions.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage* (I_C = 10 mAdc)	BV_{CEO}*	30	–	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc)	BV_{EBO}	7.0	–	Vdc
Collector Cutoff Current (V_{CB} = 50 Vdc)	I_{CBO}	–	2.0	μAdc
ON CHARACTERISTICS				
DC Current Gain* (I_C = 1.0 Adc, V_{CE} = 10 Vdc) (I_C = 5.0 Adc, V_{CE} = 10 Vdc)	h_{FE}*	1000 1000	– –	–
Collector-Emitter Saturation Voltage* (I_C = 1.0 Adc, I_B = 1.0 mAdc) (I_C = 5.0 Adc, I_B = 5.0 mAdc)	$V_{CE(sat)}$*	– –	1.2 2.5	Vdc
Base-Emitter Saturation Voltage* (I_C = 1.0 Adc, I_B = 1.0 mAdc) (I_C = 5.0 Adc, I_B = 5.0 mAdc)	$V_{BE(sat)}$*	– –	1.5 3.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain–Bandwidth Product (I_E = 100 mAdc, V_{CE} = 10 Vdc)	f_T	100	–	MHz
SWITCHING CHARACTERISTICS				
Turn-On Time* (V_{CC} = 6.75 Vdc, I_C = 5.0 Adc, I_B = 5.0 mAdc) Figure 1	t_{on}*	–	350	ns
Turn-Off Time* (V_{CC} = 6.75 Vdc, I_C = 5.0 Adc, I_B = 5.0 mAdc) Figure 1	t_{off}*	–	450	ns

*Pulse Test: Pulse Width ≤ 2.0 μs, Duty Cycle ≤ 2.0%.

FIGURE 1