

FT5760M

Silicon Darlington Transistor Array

ABSOLUTE MAXIMUM RATINGS

(Ta = 25°C)

Rating	Symbol	Condition	Value	Unit
Storage Temperature	T _{stg}		-55 ~ +150	°C
Junction Temperature	T _j		+150	°C
Collector to Base Voltage	V _{CBO}		-100	V
Emitter to Base Voltage	V _{EBO}		-5	V
Collector to Emitter Voltage	V _{CEO}		-100	V
Collector Current	(Continuous)	I _C	±3.0	A
	(Pulsed)	I _{CP}	±5.0	A
Base Current (Continuous)	I _B		-0.2	A
Isolation Voltage	V _{iso}	Pin 13 – Pin 1 ~ 12	500	V _{rms}
Collector Power Dissipation	P _C	Ta = 25°C: Single DLT operation	2.3	W
Total Collector Power Dissipation	P _T	Ta = 25°C: 4-DLT operation	5	W
Total Collector Power Dissipation	P _T	Tc = 25°C: 4-DLT operation	21	W

DLT: Darlington Transistor

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ELECTRICAL CHARACTERISTICS

Single Darlington Transistor Operation

(Ta = 25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			Min.	Typ.	Max.	
Collector to Base Breakdown Voltage	V _{(BR)CBO}	I _C = -100 μA, I _E = 0	-100	—	—	V
Emitter to Base Breakdown Voltage	V _{(BR)EBO}	I _E = -90 mA, I _C = 0	-5	—	—	V
Collector to Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -10 mA, R _{BE} = ∞	-100	—	—	V
Collector Cutoff Current	I _{CBO}	V _{CB} = -90 V, I _E = 0	—	—	-10	μA
DC Current Gain	h _{FE1}	I _C = -1.5 A, V _{CE} = -5 V (**)	2000	6000	15000	—
	h _{FE2}	I _C = -3 A, V _{CE} = -5 V (**)	500	—	—	—
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C = -1.5 A, I _B = -3 mA (**)	—	-1.1	-1.5	V
Base to Emitter Saturation Voltage	V _{BE(sat)}		—	-1.7	-2.0	V
Turn-On Time	t _{on}	V _{CC} = -30 V (***)	—	0.5	—	μs
Storage Time	t _{stg}	I _C = -1.5 A	—	1.3	—	μs
Fall Time	t _f	I _{B1} = -I _{B2} = -3 mA	—	0.5	—	μs

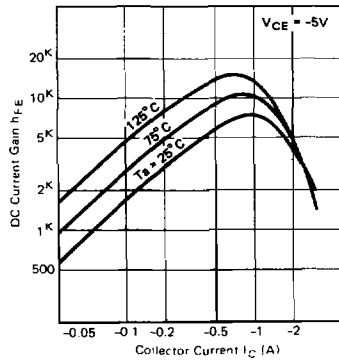
(**) Pulsed

Pulse Width ≤ 300 μs
Duty Ratio ≤ 6%

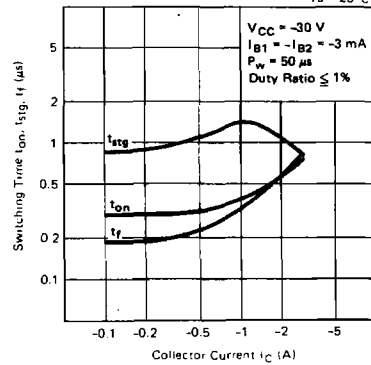
(***) Pulsed

Pulse Width = 50 μs
Duty Ratio ≤ 1%

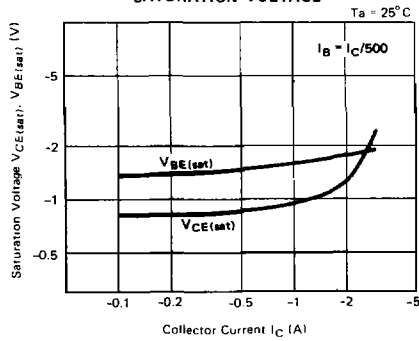
DC CURRENT GAIN



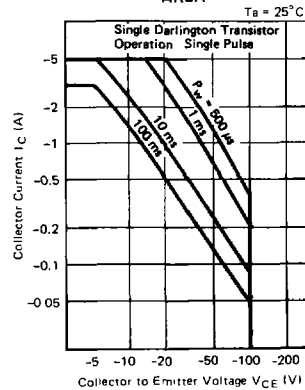
SWITCHING TIME



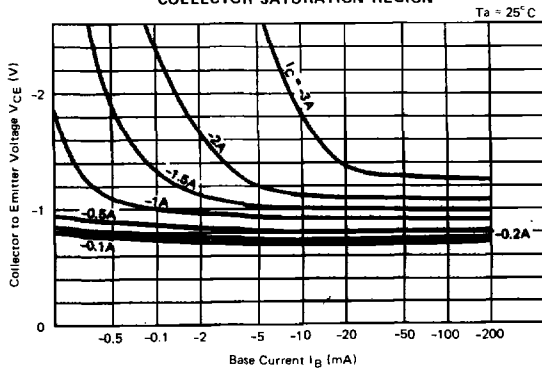
SATURATION VOLTAGE



FORWARD BIAS SAFE OPERATING AREA



COLLECTOR SATURATION REGION



POWER DISSIPATION DERATING

