

January 1990  
Edition 1.1



T-43-25

PRODUCT PROFILE

**FT5760M**

**Silicon Darlington Transistor Array**

**ABSOLUTE MAXIMUM RATINGS**

(Ta = 25°C)

Rating	Symbol	Condition	Value	Unit
Storage Temperature	T <sub>stg</sub>		-55 ~ +150	°C
Junction Temperature	T <sub>J</sub>		+150	°C
Collector to Base Voltage	V <sub>CBO</sub>		-100	V
Emitter to Base Voltage	V <sub>EBO</sub>		-5	V
Collector to Emitter Voltage	V <sub>CEO</sub>		-100	V
Collector Current	(Continuous)	I <sub>C</sub>	±3.0	A
	(Pulsed)	I <sub>cp</sub>	P <sub>W</sub> ≤ 1 ms, D.R. ≤ 50%	±5.0
Base Current (Continuous)	I <sub>B</sub>		-0.2	A
Isolation Voltage	V <sub>iso</sub>	Pin 13 - Pin 1 ~ 12	500	V <sub>r.m.s.</sub>
Collector Power Dissipation	P <sub>C</sub>	Ta = 25°C: Single DLT operation	2.3	W
Total Collector Power Dissipation	P <sub>T</sub>	Ta = 25°C: 4-DLT operation	5	W
Total Collector Power Dissipation	P <sub>T</sub>	Tc = 25°C: 4-DLT operation	21	W

DLT: Darlington Transistor



**ELECTRICAL CHARACTERISTICS**

Single Darlington Transistor Operation

(Ta = 25°C)

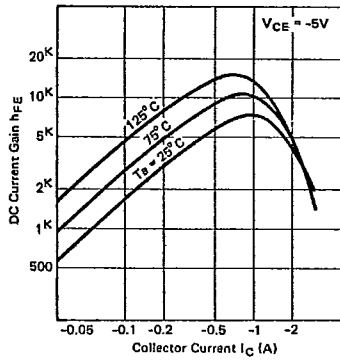
Parameter	Symbol	Test Condition	Limit			Unit
			Min.	Typ.	Max.	
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -100 μA, I <sub>E</sub> = 0	-100	-	-	V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -90 mA, I <sub>C</sub> = 0	-5	-	-	V
Collector to Emitter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

(\*\*) Pulsed Pulse Width ≤ 300 μs  
Duty Ratio ≤ 6%

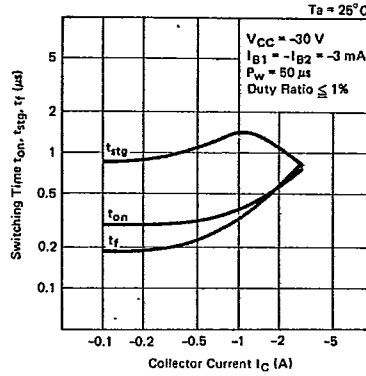
(\*\*\*) Pulsed Pulse Width = 50 μs  
Duty Ratio ≤ 1%

FT5760M

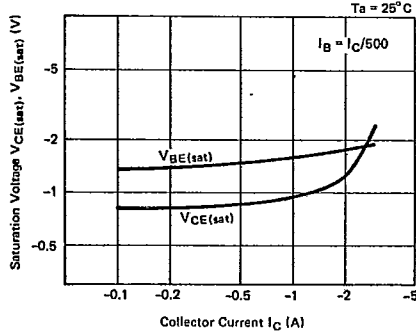
DC CURRENT GAIN



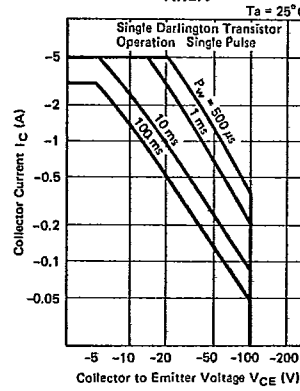
SWITCHING TIME



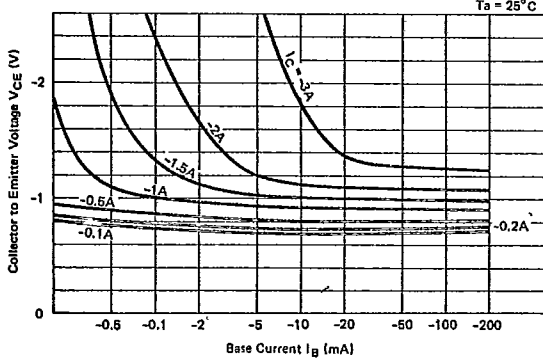
SATURATION VOLTAGE



FORWARD BIAS SAFE OPERATING AREA



COLLECTOR SATURATION REGION



POWER DISSIPATION DERATING

