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Edition 1.1

PRODUCT PROFILE

T-43-25
FUJITSU

FT5754M, FT5757M

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 _{CB0}		150	V	
Emitter to Base Voltage	V _{EBO}		5	V	
Collector to Emitter Voltage	V _{CEO}		100	V	
Collector Current	(Continuous)	I _C		±33	A
	(Pulsed)	I _{cp}	P _W ≤ 1 ms, D.R. ≤ 50%	±5	A
Base Current (Continuous)	I _B		0.2	A	
Diode Forward Current	I _{FM}	P _W ≤ 0.5 ms, D.R. ≤ 25% (*)	3	A	
	I _{FSM}	P _W ≤ 100 ms, Single Pulse (*)	5	A	
Diode Reverse Voltage	V _R	Pin 3 – Pin 2, 4, Pin 10 – Pin 9, 11 (*)	110	V	
Isolation Voltage	V _{iso}	Fin 13 – Pin 1 ~ 12	500	V _{r.m.s.}	
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	

(*) Fast recovery Diode

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 _{(BR)CBO}	I _C = 100 μA, I _E = 0	150	–	–	V
Emitter to Base Breakdown Voltage	V _{(BR)EBO}	I _E = 70 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} = 100 V, I _E = 0	–	–	10	μA
DC Current Gain	h _{FE1}	I _C = 1.5 A, V _{CE} = 5V (**)	2000	6000	15000	–
	h _{FE2}	I _C = 3.0 A, V _{CE} = 5V (**)	500	–	–	–
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C = 1.5 A, I _B = 3 mA (**)	–	1.2	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 (***)	–	0.6	–	μs
Storage Time	t _{stg}	I _C = 1.5 A	–	1.8	–	μs
Fall Time	t _f	I _{B1} = I _{B2} = 3 mA	–	0.6	–	μs

Single Fastrecovery Diode Operation (FT5754M Only)

(Ta = 25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			Min.	Typ.	Max.	
Forward Voltage	V _F	I _F = 100 mA	–	–	1.0	V
Reverse Current	I _R	V _R = 100 V	–	–	5	μA
Reverse Voltage	V _R	I _R = 10 μA	110	–	–	V

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

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

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