

## Power Darlington Transistor

## FMMT734

## ■ Features

- 625mW Power Dissipation
- Very high  $h_{FE}$  at high current (5A)
- Extremely low  $V_{CE(sat)}$  at high current (1A)

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-100	V
Collector-emitter voltage	$V_{CEO}$	-100	V
Emitter-base voltage	$V_{EBO}$	-12	V
Collector current	$I_C$	-800	mA
Peak collector current	$I_{CM}$	-5	A
Power dissipation	$P_{tot}$	625	mW
Operating and storage temperature range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

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## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=-100μA	-100	-130		V
Collector-emitter breakdown voltage *	V(BR)CEO	IC=-5mA	-100	-116		V
Emitter-base breakdown voltage	V(BR)EBO	IE=-100μA	-12	-17		V
Collector cutoff current	ICBO	VCE=-80V			-10	nA
Collector cutoff current	ICEO	VCE=-80V			-200	nA
Emitter cut-off current	IEBO	VEB=-7V			-10	nA
Collector-emitter saturation voltage *	VCE(sat)	IC=-100mA, IB=-1mA		-0.68	-0.75	V
		IC=-250mA, IB=-1mA		-0.72	-0.80	V
		IC=-500mA, IB=-5mA		-0.78	-0.86	V
		IC=-800mA, IB=-5mA		-0.86	-0.97	V
		IC=-800mA, IB=-5mA		-0.72		V
		IC=-1A, IB=-5mA		-0.90	-1.05	V
Base-emitter saturation voltage *	VBE(sat)	IC=-1A, IB=-5mA		-1.6	-1.75	V
Base-Emitter Turn-On Voltage *	VBE(ON)	IC=-1A, VCE=-5V		-1.3	-1.75	V
Static Forward Current Transfer Ratio*	hFE	IC=-10mA, VCE=-5V		60K		
		IC=-100mA, VCE=-5V	20K	60K		
		IC=-1A, VCE=-5V	15K	50K		
		IC=-2A, VCE=-5V	5K	15K		
		IC=-5A, VCE=-5V		150		
		IC=-1A, VCE=-2V		20K		
Transition Frequency	fT	IC=-10mA, VCE=-10V, f=100MHz		140		MHz
Output Capacitance	Cobo	VCE=-10V, f=1MHz		14	25	pF
Turn-On Time	ton	IC=-500mA, VCC=-20V		460		ns
Turn-Off Time	toff	IB=±1mA		1200		ns

\* Pulse test: tp = 300 μs; d ≤ 0.02.

## ■ Marking

Marking	734
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