

Avalanche Transistor

FMMT417

■ Features

- High speed pulse generators
- SOT23 NPN Silicon Planar

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	320	V
Collector-emitter voltage	V_{CE0}	100	V
Emitter-base voltage	V_{EB0}	6	V
Peak collector current	I_{CM}	60	A
Collector current	I_C	500	mA
Power dissipation	P_{tot}	330	mW
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}$	320			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=100\mu\text{A}$	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$	6			V
Collector cutoff current	I_{CBO}	$V_{CB}=80\text{V}$			0.1	μA
		$V_{CB}=80\text{V}, T_{amb}=100^\circ\text{C}$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}$			0.1	μA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.5	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.9	V
Current in second breakdown	I_{SB}	$V_C=200\text{V}, C_{CE}=620\text{pF}$	15			A
		$V_C=250\text{V}, C_{CE}=620\text{pF}$	25			A
Static Forward Current Transfer Ratio	h_{FE}	$I_C=10\text{mA}, V_{CE}=10\text{V}^*$	25			
Transition frequency	f_T	$I_C=10\text{mA}, V_{CE}=20\text{V}, f=20\text{MHz}$	40			MHz
Collector-base capacitance	C_{cb}	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$			8	pF

* Pulse test: $t_p = 300 \mu\text{s}; d \leq 0.02$.

■ Marking

Marking	417
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