

SOT23 NPN SILICON PLANAR AVALANCHE TRANSISTOR

FMMT415 FMMT417

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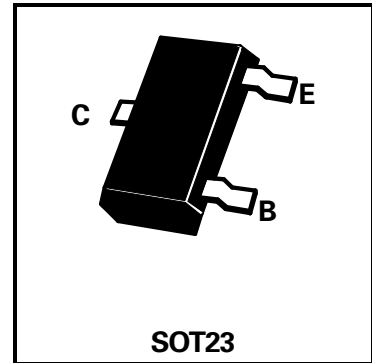
FEATURES

- * Specifically designed for Avalanche mode operation
- * 60A Peak Avalanche Current (Pulse width=20ns)

APPLICATIONS

- * Laser LED drivers
- * Fast edge generation
- * High speed pulse generators

PARTMARKING DETAIL – FMMT415 – 415
FMMT417 – 417



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FMMT415	FMMT417	UNIT
Collector-Base Voltage	V_{CBO}	260	320	V
Collector-Emitter Voltage	V_{CEO}	100	100	V
Emitter-Base Voltage	V_{EBO}	6		V
Continuous Collector Current	I_C	500		mA
Peak Collector Current (Pulse Width=20ns)	I_{CM}	60		A
Power Dissipation	P_{tot}	330		mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150		$^{\circ}C$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	FMMT415 $V_{(BR)CES}$	260			V	$I_C=1mA$ $T_{amb}=-55$ to $+150^{\circ}C$
	FMMT417	320			V	$I_C=1mA$
Collector-Emitter Breakdown Voltage	$V_{CEO(sus)}$	100			V	$I_C=100\mu A$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=10\mu A$
Collector Cut-Off Current	I_{CBO}			0.1 10	μA μA	$V_{CB}=180V$ $V_{CB}=180V$, $T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=10mA$, $I_B=1mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	$I_C=10mA$, $I_B=1mA^*$
Current in Second Breakdown (Pulsed)	I_{SB}	15			A	$V_C=200V$, $C_{CE}=620pF$
		25			A	$V_C=250V$, $C_{CE}=620pF$
Static Forward Current Transfer Ratio	h_{FE}	25				$I_C=10mA$, $V_{CE}=10V^*$
Transition Frequency	f_T	40			MHz	$I_C=10mA$, $V_{CE}=20V$ $f=20MHz$
Collector-Base Capacitance	C_{cb}			8	pF	$V_{CB}=20V$, $I_E=0$ $f=100MHz$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

FMMT415 FMMT417

TYPICAL CHARACTERISTICS

