

# SOT23 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

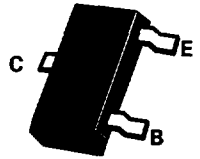
## FMMT614

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### FEATURES

- \*  $h_{FE}$  up to 5k at  $I_C = 500\text{mA}$
- \* Fast switching
- \* Low  $V_{CE(sat)}$  at High  $I_C$

PARTMARKING DETAILS – 614



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	120	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Peak Pulse Current	$I_{CM}$	2	A
Continuous Collector Current	$I_C$	500	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	500	mW
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ ).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120	300		V	$I_C=10\mu\text{A}, I_E=0$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	100	130		V	$I_C=10\text{mA}, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10	14		V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	$I_{CBO}$		0.02	10	nA	$V_{CB}=100\text{V}, I_E=0$
Collector Cut-Off Current	$I_{CES}$			10	$\mu\text{A}$	$V_{CES}=100\text{V}, I_E=0$
Emitter Cut-Off Current	$I_{EBO}$			100	nA	$V_{EB}=8\text{V}, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.9 0.78	1.0 0.9	V	$I_C=500\text{mA}, I_B=5\text{mA}^*$ $I_C=100\text{mA}, I_B=0.1\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.7	1.9	V	$I_C=500\text{mA}, I_B=5\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.5	1.8	V	$I_C=500\text{mA}, V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	15K 5K				$I_C=100\text{mA}, V_{CE}=5\text{V}^*$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$
Output Capacitance	$C_{obo}$		6		pF	$V_{CB}=10\text{V}, f=100\text{Hz}$
Switching Times	$t_{on}$		0.7		$\mu\text{s}$	$I_C=100\mu\text{A}, I_B=0.1\text{mA}$ $V_S=10\text{V}$
	$t_{off}$		2.5		$\mu\text{s}$	

\*Measured under pulsed conditions. Pulse Width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

Spice parameter data is available upon request for this device

Typical Characteristics graphs are in preparation. Contact your local Sales office for more information.