

# SOT23 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

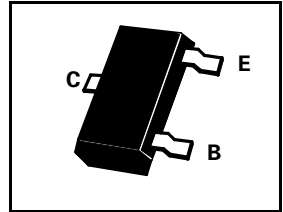
**FMMT38A  
FMMT38B  
FMMT38C**

**ISSUE 3 – AUGUST 1996**

## FEATURES

- \* 60 Volt  $V_{CEO}$
- \* Gain of 10K at  $I_C=0.5$  Amp

PARTMARKING DETAILS – FMMT38A – 4J  
FMMT38B – 5J  
FMMT38C – 7J



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Peak Pulse Current	$I_{CM}$	800	mA
Continuous Collector Current	$I_C$	300	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	330	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.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80		V	$I_C=10\mu\text{A}$ , $I_E=0$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	60		V	$I_C=10\text{mA}$ , $I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10		V	$I_E=10\mu\text{A}$ , $I_C=0$
Collector Cut-Off Current	$I_{CBO}$		100	nA	$V_{CB}=60\text{V}$ , $I_E=0$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=8\text{V}$ , $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		1.25	V	$I_C=800\text{mA}$ , $I_B=8\text{mA}^*$
Base-Emitter Turn-on Voltage	$V_{BE(on)}$		1.8	V	$I_C=800\text{mA}$ , $V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	FMMT38A	$h_{FE}$	500 1000		$I_C=100\text{mA}$ , $V_{CE}=5\text{V}^*$ $I_C=500\text{mA}$ , $V_{CE}=5\text{V}^*$
	FMMT38B		2000 4000		$I_C=100\text{mA}$ , $V_{CE}=5\text{V}^*$ $I_C=500\text{mA}$ , $V_{CE}=5\text{V}^*$
	FMMT38C		5000 10000		$I_C=100\text{mA}$ , $V_{CE}=5\text{V}^*$ $I_C=500\text{mA}$ , $V_{CE}=5\text{V}^*$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device

**FMMT38A**  
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**FMMT38C**

**TYPICAL CHARACTERISTICS**

