

# SOT23 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

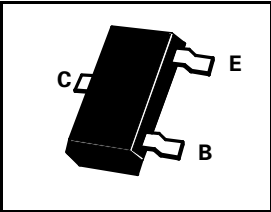
**FMMT38A**  
**FMMT38B**  
**FMMT38C**

**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 $T_{amb}=25^{\circ}C$	$P_{tot}$	330	mW
Operating and Storage Temperature Range	$T_j;T_{stg}$	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80		V	$I_C=10\mu A, I_E=0$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	60		V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	$I_{CBO}$		100	nA	$V_{CB}=60V, I_E=0$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=8V, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		1.25	V	$I_C=800mA, I_B=8mA^*$
Base-Emitter Turn-on Voltage	$V_{BE(on)}$		1.8	V	$I_C=800mA, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	FMMT38A	$h_{FE}$	500 1000		$I_C=100mA, V_{CE}=5V^*$ $I_C=500mA, V_{CE}=5V^*$
	FMMT38B		2000 4000		$I_C=100mA, V_{CE}=5V^*$ $I_C=500mA, V_{CE}=5V^*$
	FMMT38C		5000 10000		$I_C=100mA, V_{CE}=5V^*$ $I_C=500mA, V_{CE}=5V^*$

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

**FMMT38A**  
**FMMT38B**  
**FMMT38C**

**TYPICAL CHARACTERISTICS**

