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# “SUPER SOT” SOT23 PNP SILICON POWER DARLINGTON TRANSISTOR

## FMMT734

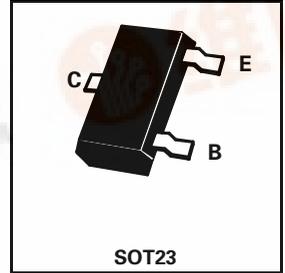
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### FEATURES

- \* **625mW POWER DISSIPATION**
- \* Very High  $h_{FE}$  at High Current (5A)
- \* Extremely Low  $V_{CE(sat)}$  at High Current (1A)

COMPLEMENTARY TYPE – FMMT634

PARTMARKING DETAIL – 734



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-100	V
Emitter-Base Voltage	$V_{EBO}$	-12	V
Peak Pulse Current	$I_{CM}$	-5	A
Continuous Collector Current	$I_C$	-800	mA
<b>Power Dissipation</b>	<b><math>P_{tot}</math></b>	<b>625</b>	<b>mW</b>
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	°C

\* Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x0.6mm

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



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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-100	-130		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-100	-116		V	$I_C = -5\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-12	-17		V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-10	nA	$V_{CB} = -80\text{V}$
Emitter Cut-Off Current	$I_{EBO}$			-10	nA	$V_{EB} = -7\text{V}$
Collector Emitter Cut-Off Current	$I_{CES}$			-200	nA	$V_{CES} = -80\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.68 -0.72 -0.78 -0.86 -0.72 -0.90	-0.75 -0.80 -0.86 -0.97 — -1.05	V V V V V V	$I_C = -100\text{mA}, I_B = -1\text{mA}^*$ $I_C = -250\text{mA}, I_B = -1\text{mA}^*$ $I_C = -500\text{mA}, I_B = -5\text{mA}^*$ $I_C = -800\text{mA}, I_B = -5\text{mA}^*$ $I_C = -800\text{mA}, I_B = -5\text{mA}^*$ † $I_C = -1\text{A}, I_B = -5\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.60	-1.75	V	$I_C = -1\text{A}, I_B = -5\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-1.30	-1.75	V	$I_C = -1\text{A}, V_{CE} = -5\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	20K 15K 5K	60K 60K 50K 15K 150 20K			$I_C = -10\text{mA}, V_{CE} = -5\text{V}^*$ $I_C = -100\text{mA}, V_{CE} = -5\text{V}^*$ $I_C = -1\text{A}, V_{CE} = -5\text{V}^*$ $I_C = -2\text{A}, V_{CE} = -5\text{V}^*$ $I_C = -5\text{A}, V_{CE} = -5\text{V}^*$ $I_C = -1\text{A}, V_{CE} = -2\text{V}^*$
Transition Frequency	$f_T$		140		MHz	$I_C = -10\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	$C_{obo}$		14	25	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Turn-On Time	$t_{(on)}$		460		ns	$I_C = -500\text{mA}, V_{CC} = -20\text{V}$ $I_B = \pm 1\text{mA}$
Turn-Off Time	$t_{(off)}$		1200		ns	

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

†  $T_{amb} = 150^{\circ}\text{C}$

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## TYPICAL CHARACTERISTICS

