

NPN Silicon Planar Medium Power Transistor

FMMT449

FEATURES

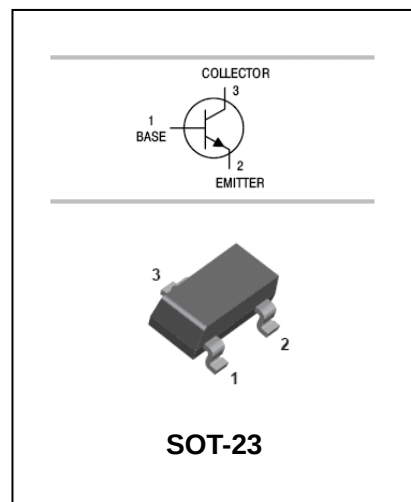
- Low equivalent on-resistance, $R_{CE(sat)}$:
250mΩ at 1A.
- Complementary To FMMT549.



Lead-free

APPLICATIONS

- NPN silicon planar medium power transistor.



ORDERING INFORMATION

Type No.	Marking	Package Code
FMMT449	449	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_{CM}	Peak Pulse Current	2	A
I_C	Collector Current -Continuous	1	A
I_B	Base Current	200	mA
P_{tot}	Power Dissipation	500	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	°C



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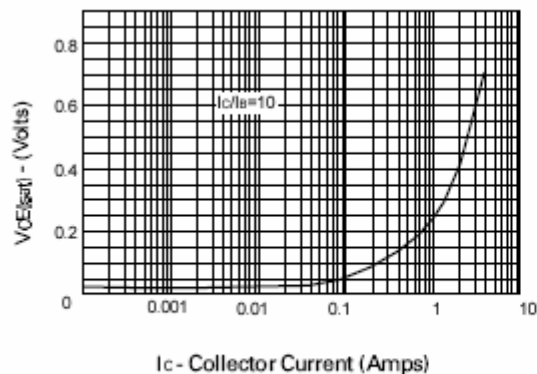
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=40V, I_E=0$ $V_{CB}=40V, I_E=0, T_{amb}=100^\circ C$			0.1 10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=50mA$	70			
		$V_{CE}=2V, I_C=500mA$	100		300	
		$V_{CE}=2V, I_C=1A$	80			
		$V_{CE}=2V, I_C=2A$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A, I_B=100mA$ $I_C=2A, I_B=200mA$			0.5 1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A, I_B=100mA$			1.25	V
Base-emitter turn-on voltage	$V_{BE(on)}$	$I_C=1A, V_{CE}=2V$			1.0	V
Transition frequency	f_T	$V_{CE}=10V, I_C=50mA$ $f=100MHz$	150			MHz
Output capacitance	C_{obo}	$V_{CB}=10V, f=1MHz$			15	pF

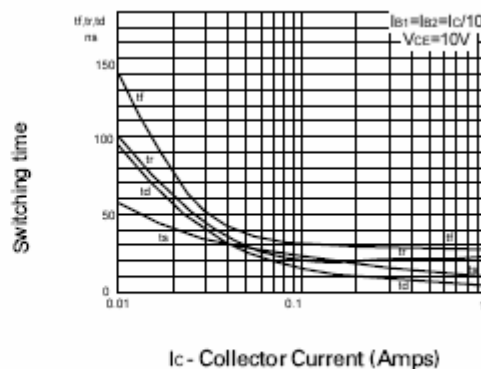
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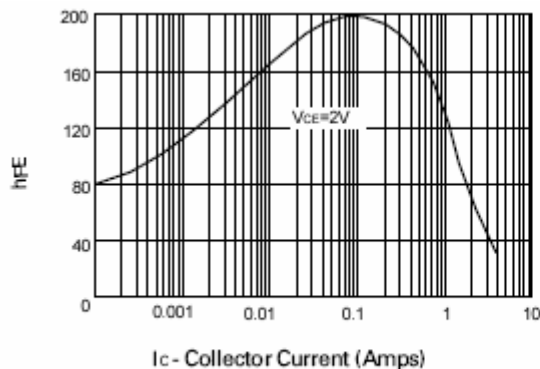
TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



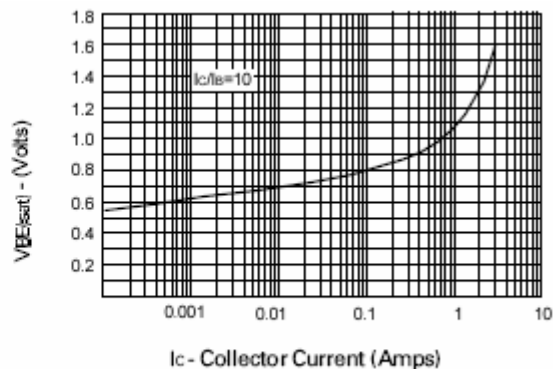
$V_{CE(sat)}$ v I_C



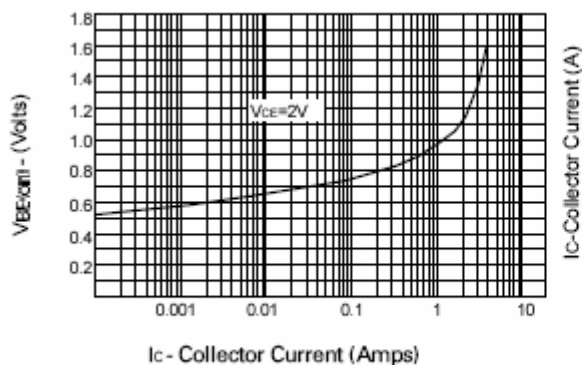
Switching Speeds



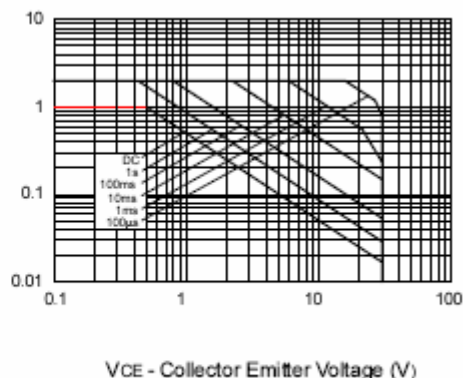
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area

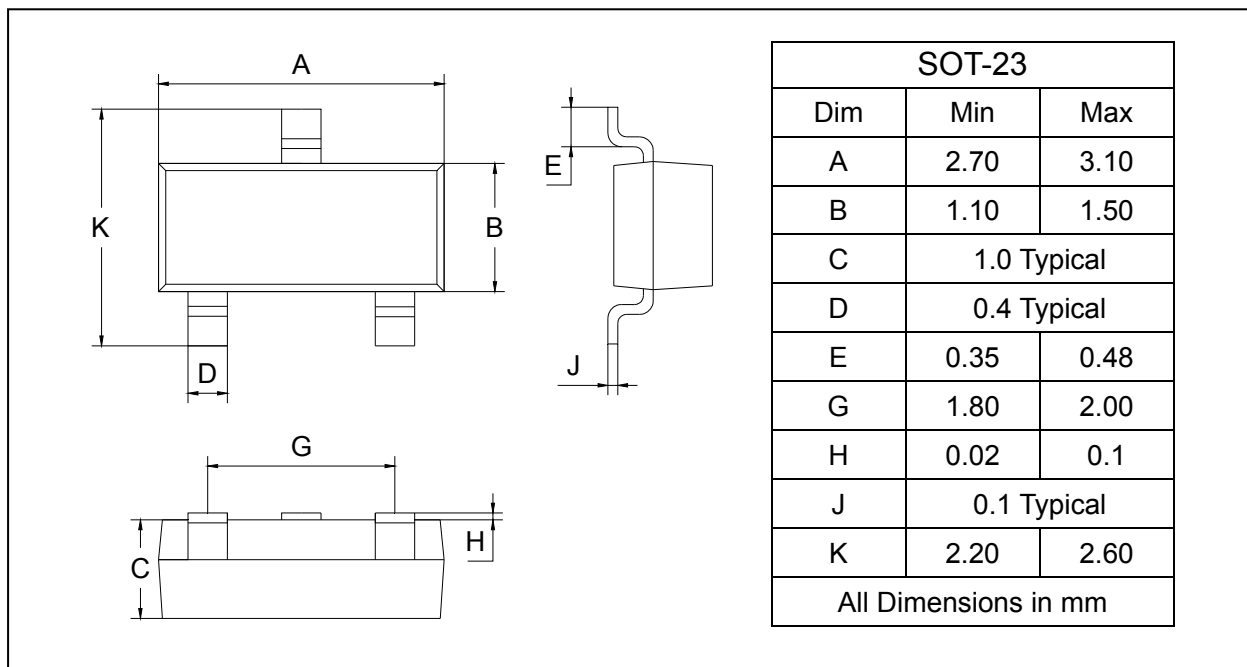
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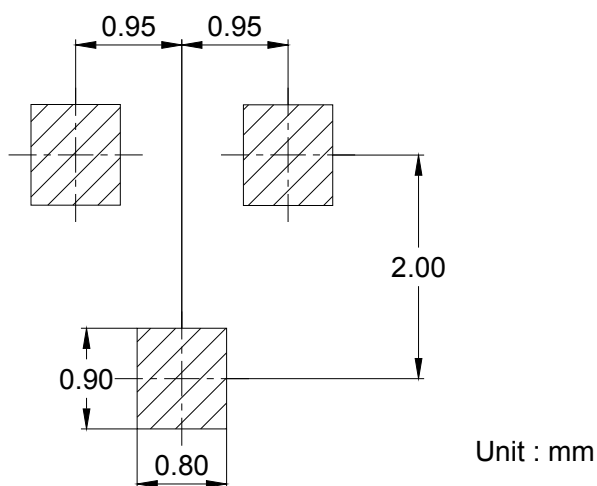
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
FMMT449	SOT-23	3000/Tape&Reel