



## NPN Silicon Epitaxial Planar Transistor

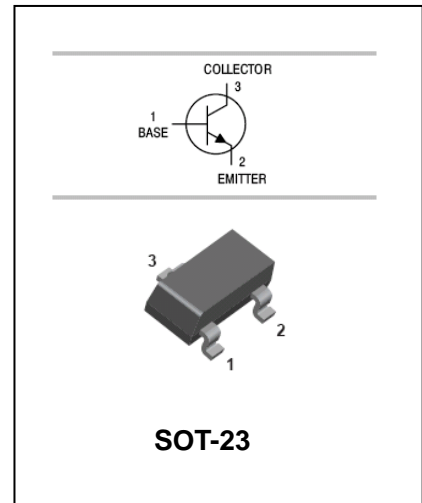
## FMMT458

### FEATURES

- High voltage.
- Complementary To FMMT558.



Lead-free



### ORDERING INFORMATION

Type No.	Marking	Package Code
FMMT458	458	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	400	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	225	mA
I <sub>CM</sub>	Peak Pulse Current	1	A
I <sub>B</sub>	Base Current	200	mA
P <sub>tot</sub>	Power Dissipation	500	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55 to +150	°C



**NPN Silicon Epitaxial Planar Transistor**

**FMMT458**

**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

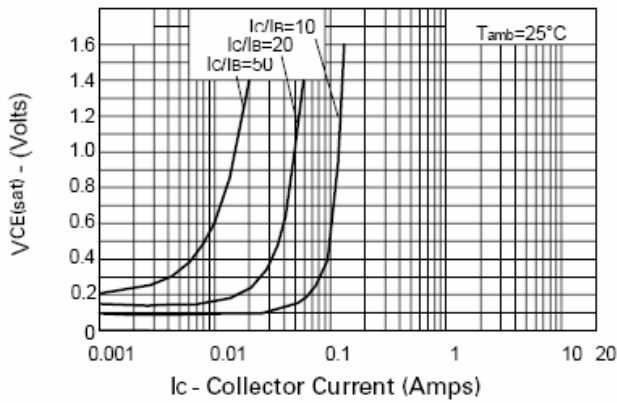
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=320V, I_E=0$			0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=320V, I_B=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=10V, I_C=1mA$	100			
		$V_{CE}=10V, I_C=50mA$	100		300	
		$V_{CE}=10V, I_C=100mA$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20mA, I_B=2mA$ $I_C=50mA, I_B=6mA$			0.2 0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$			0.9	V
Base-emitter turn on voltage	$V_{BE(on)}$	$I_C=50mA, V_{CE}=10V$			0.9	V
Transition frequency	$f_T$	$V_{CE}=20V, I_C=10mA$ $f=20MHz$	50			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=20V, f=1MHz$			5	pF
Switching times	$t_{on}$	$I_C=50mA, V_{CC}=100V$		135		nS
	$t_{off}$	$I_{B1}=5mA, I_{B2}=10mA$		2260		



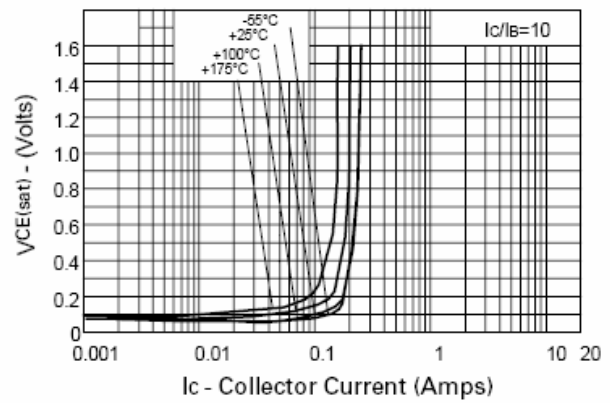
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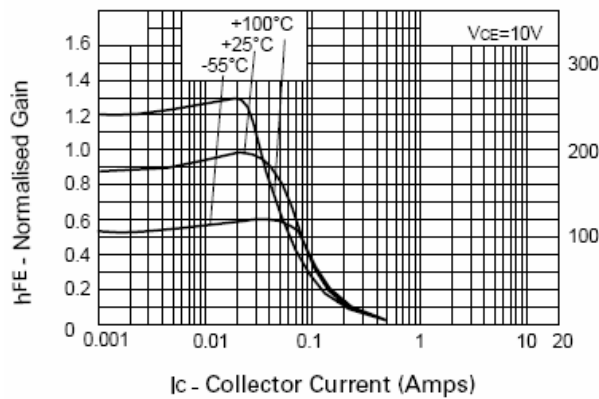
TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



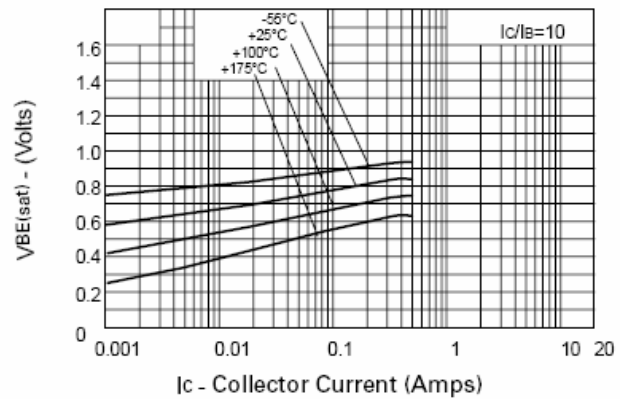
**$V_{CE(sat)}$  v  $I_C$**



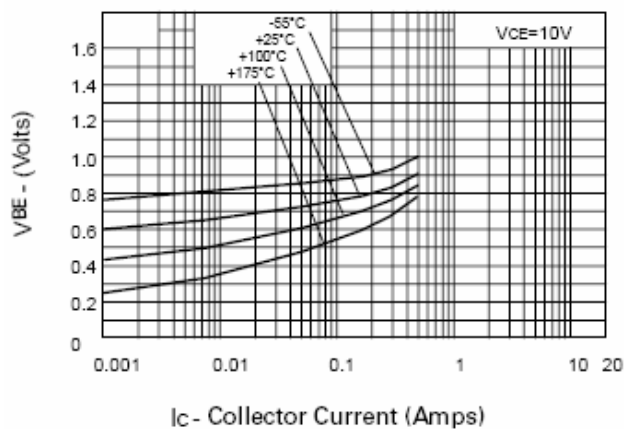
**$V_{CE(sat)}$  v  $I_C$**



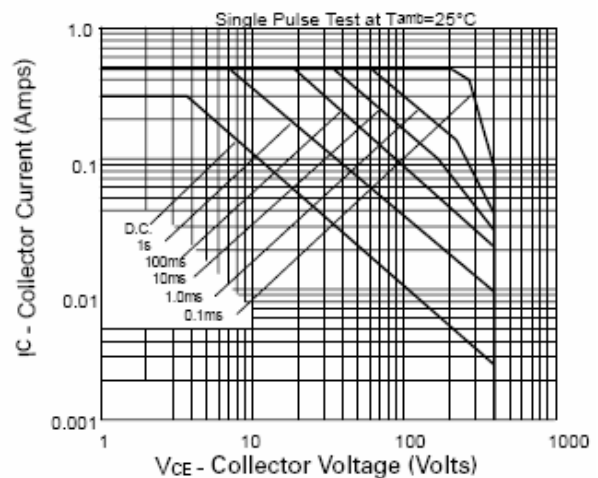
**$h_{FE}$  v  $I_C$**



**$V_{BE(sat)}$  v  $I_C$**



**$V_{BE(on)}$  v  $I_C$**



**Safe Operating Area**

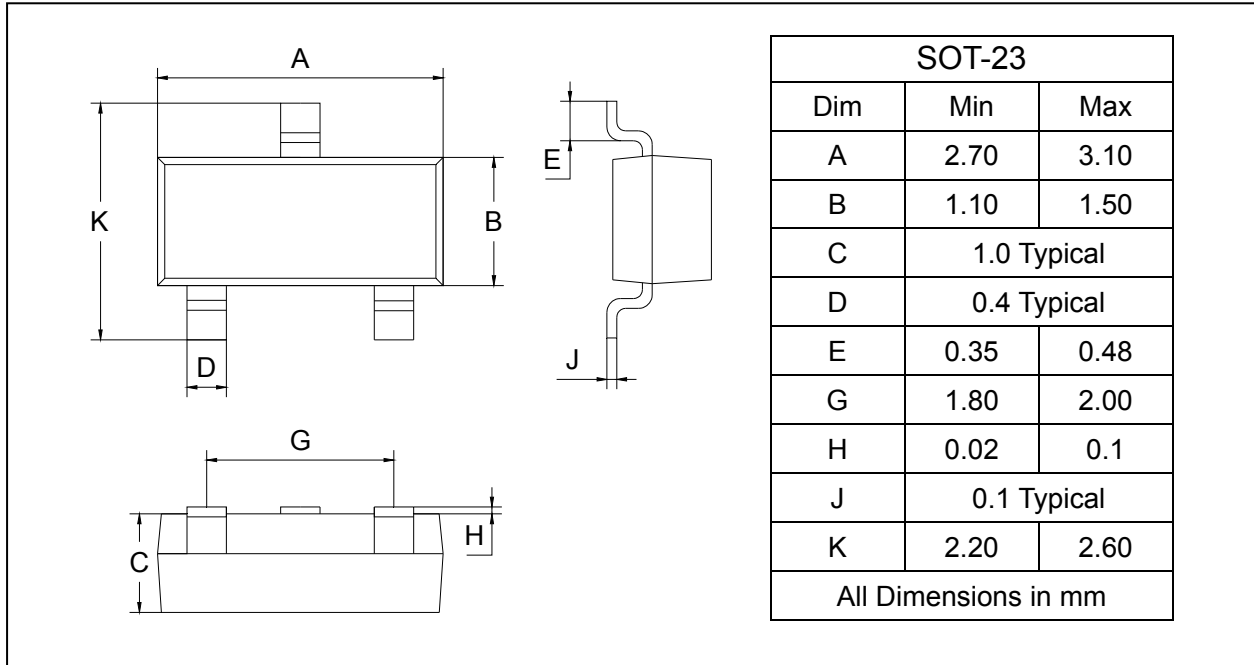
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**FMMT458**

**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-23



**SOLDERING FOOTPRINT**



**PACKAGE INFORMATION**

Device	Package	Shipping
FMMT458	SOT-23	3000/Tape&Reel