



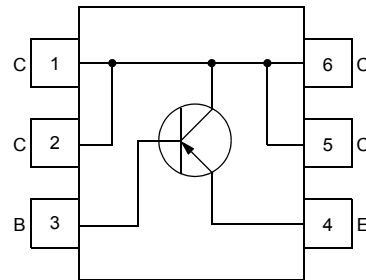
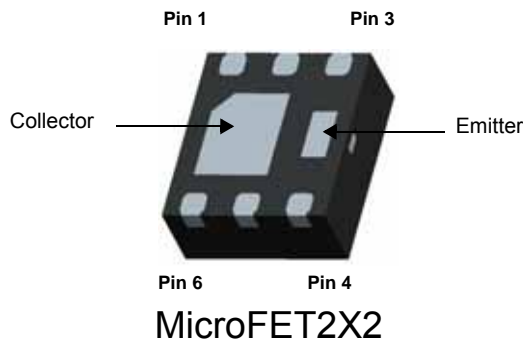
# FJMA790

## PNP Epitaxial Silicon Transistor



High current surface mount PNP silicon switching transistor for load management in portable applications

- High Collector current
- Low Collector-Emitter Saturation Voltage
- RoHS Compliant



### Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-35	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-2	A
$P_D$	Power Dissipation	Note1)	1.56
		Note2)	0.8
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

### Thermal Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
$R\Theta_{JA}$	Thermal Resistance, Junction to Ambient	Note1)	80
		Note2)	154

**Note1):** The device mounted on a 1inch<sup>2</sup> pad of 2 oz copper pad on a 1.5 × 1.5 in. board of FR-4 material.

**Note2):** The device mounted on a minimum pad of 2 oz copper pad on a 1.5 × 1.5 in. board of FR-4 material

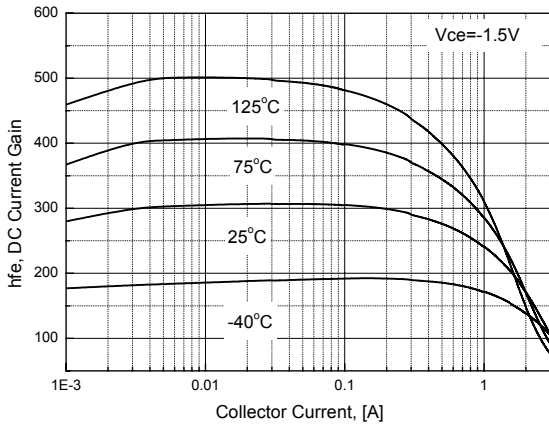
**Electrical Characteristics**  $T_a = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-50			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-35			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -35\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = -1.5\text{V}, I_C = -1\text{A}$ $V_{CE} = -1.5\text{V}, I_C = -1.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -2\text{A}$ $V_{CE} = -2\text{V}, I_C = -500\text{mA}$	100 100 100 100		400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -5\text{mA}$ $I_C = -1\text{A}, I_B = -10\text{mA}$ $I_C = -2\text{A}, I_B = -50\text{mA}$			-250 -350 -450	mV mV mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -1\text{A}, I_B = -10\text{mA}$			-0.9	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -2\text{V}, I_C = -1\text{A}$			-0.9	V

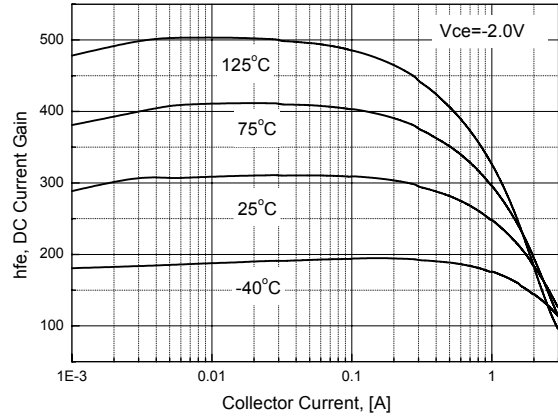
**Package Marking and Ordering Information**

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
790	FJMA790	MLP 2x2 Single	7"	8mm	3,000 units

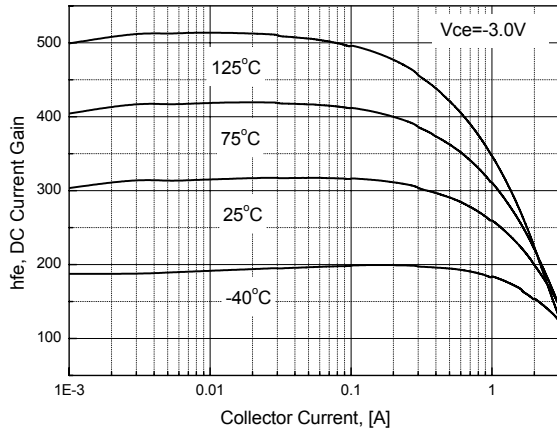
## Typical Characteristics



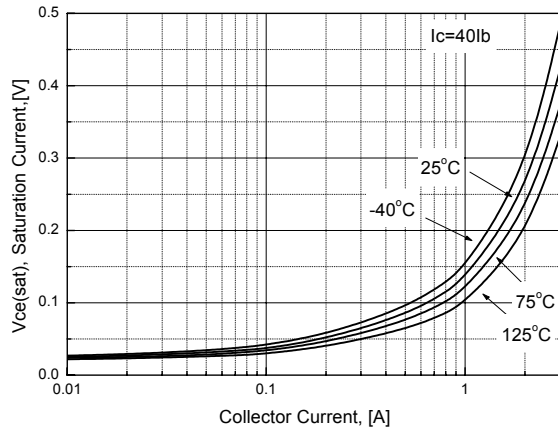
**Figure 1. DC Current Gain, Vce=1.5V**



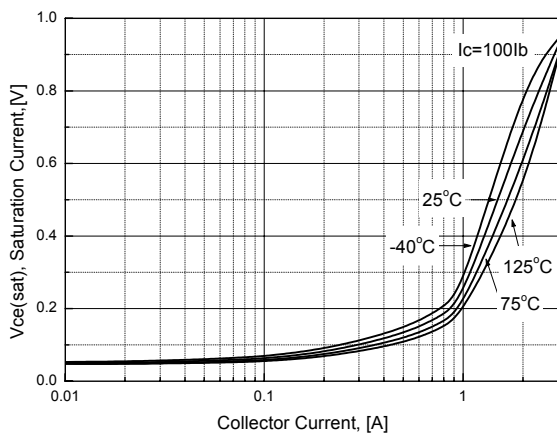
**Figure 2. DC Current Gain, Vce=2V**



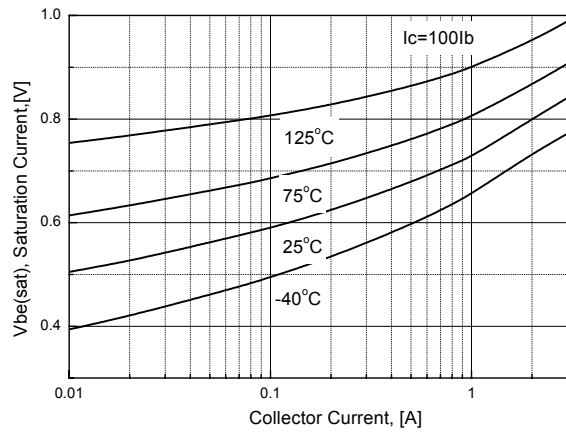
**Figure 3. DC Current Gain, Vce=3V**



**Figure 4. Collector-Emitter Saturation Voltage(1)**

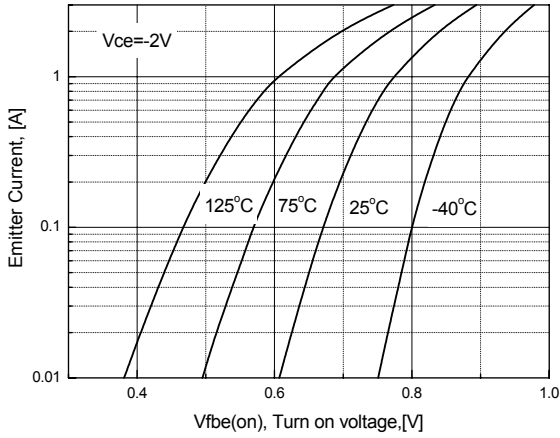


**Figure 5. Collector-Emitter Saturation Voltage(2)**

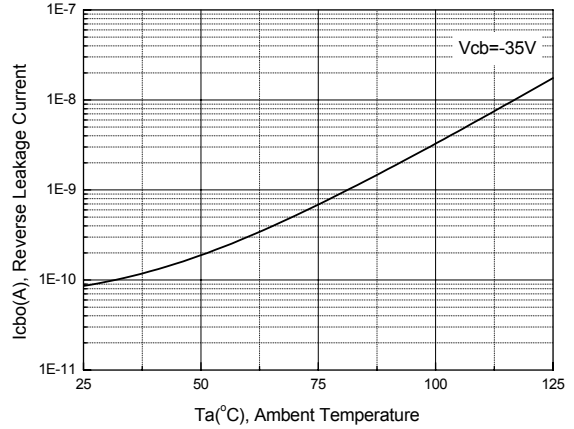


**Figure 6. Base-Emitter Saturation Voltage**

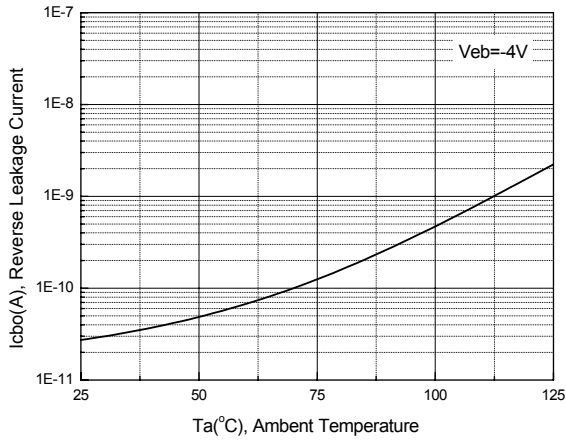
**Typical Performance Characteristics (Continued)**



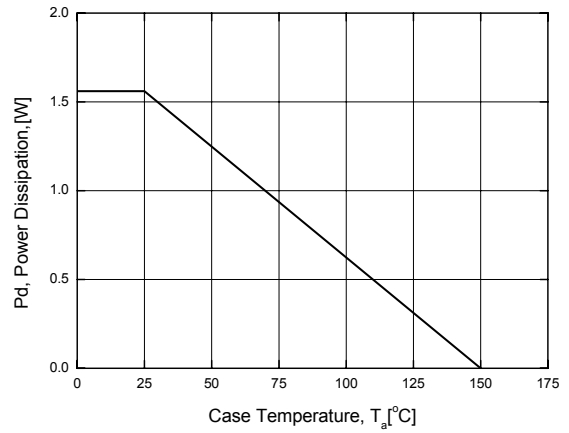
**Figure 7. Base- Emitter Turn On Voltage**



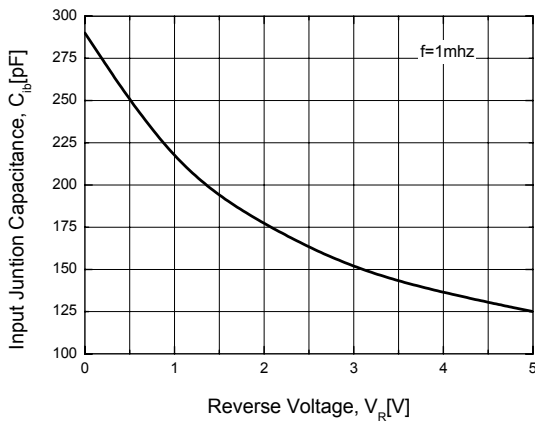
**Figure 8. Collector-Base Leakage Current**



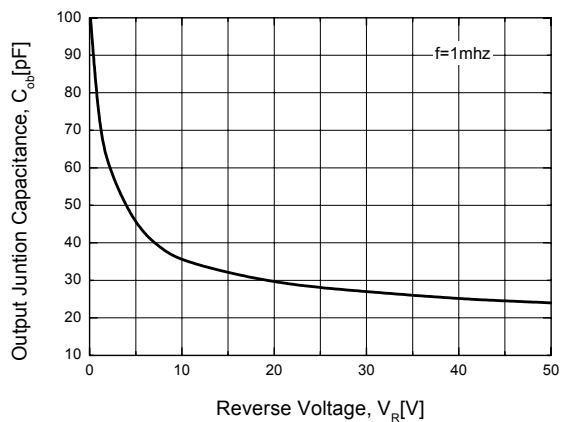
**Figure 9. Base-Emitter Leakage Current**



**Figure 10. Power Derating**



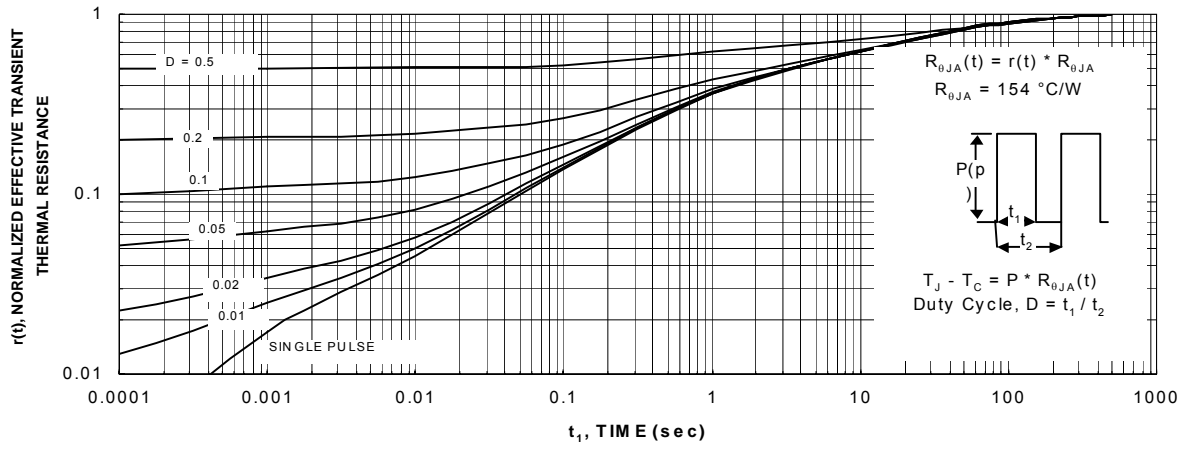
**Figure 11. Input Capacitance**

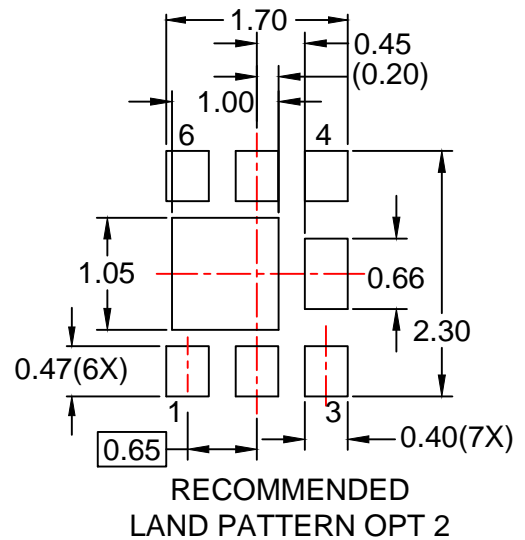
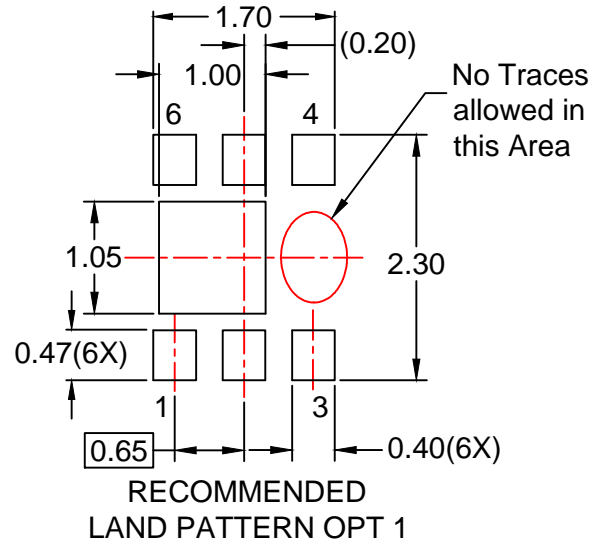
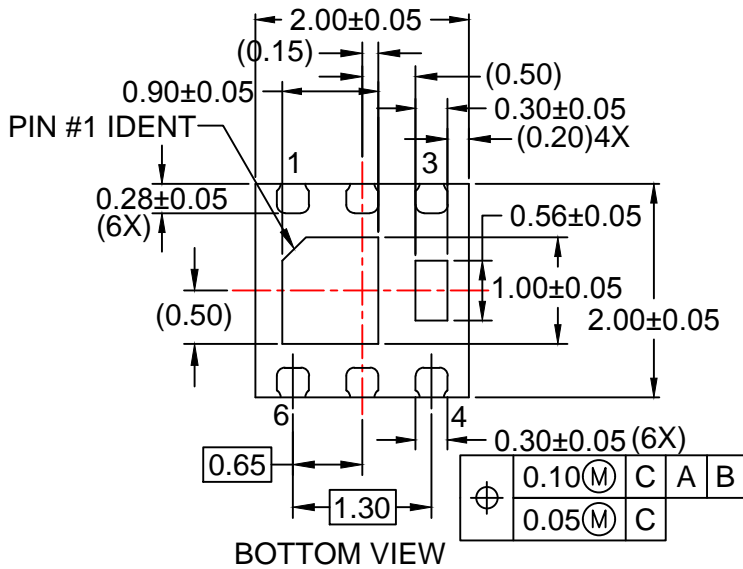
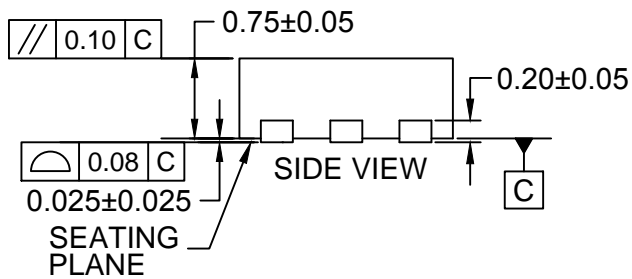
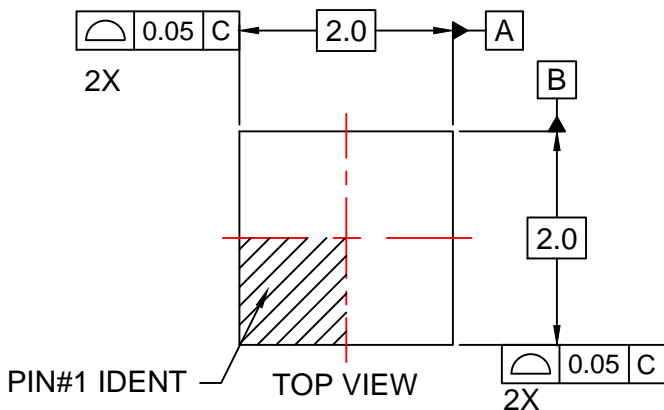


**Figure 12. Output Capacitance**

Typical Performance Characteristics (Continued)

Figure 12. Transient Thermal Response





**NOTES:**

- A. PACKAGE DOES NOT FULLY CONFORM TO JEDEC MO-229 REGISTRATION
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 2009.
- D. LAND PATTERN RECOMMENDATION IS EXISTING INDUSTRY LAND PATTERN.
- E. DRAWING FILENAME: MKT-MLP06Lrev4.





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