FAIRCHILD SEMICONDUCTOR®

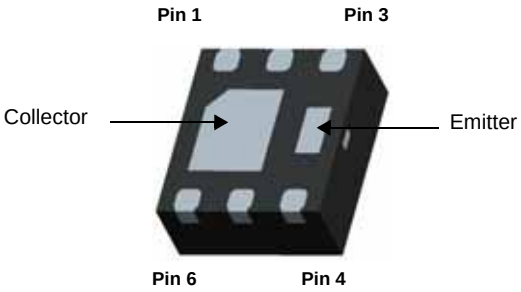
June 2006

FJMA790
PNP Epitaxial Silicon Transistor

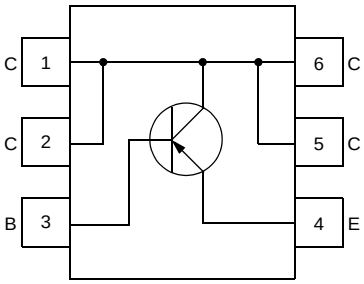
High current surface mount PNP silicon switching transistor for load management in portable applications

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

RoHS Compliant



MicroFET2X2



Absolute Maximum Ratings T_a = 25°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) Note2)	1.56 0.8	W W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Thermal Characteristics T_a=25°C unless otherwise noted

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

Note1): The device mounted on a 1inch^2 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°C unless otherwise noted

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

Package Marking and Ordering Information

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

Typical Characteristics

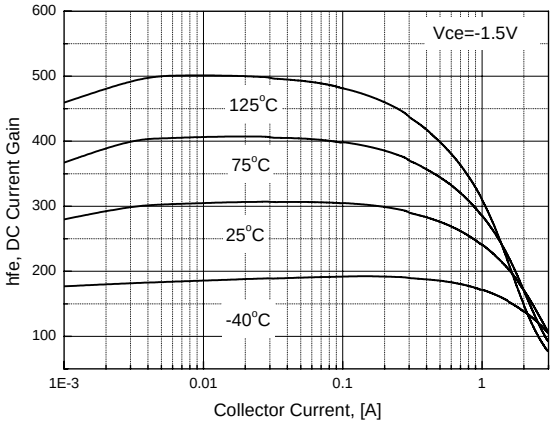


Figure 1. DC Current Gain, Vce=1.5V

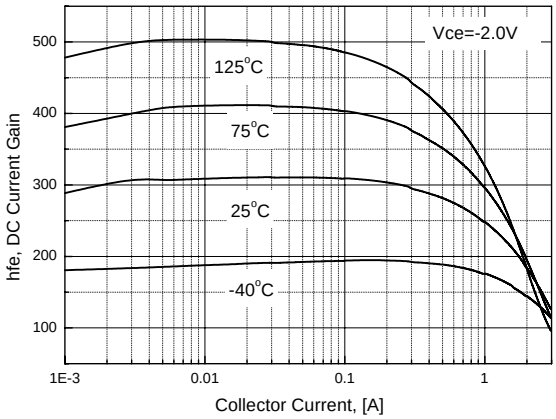


Figure 2. DC Current Gain, Vce=2V

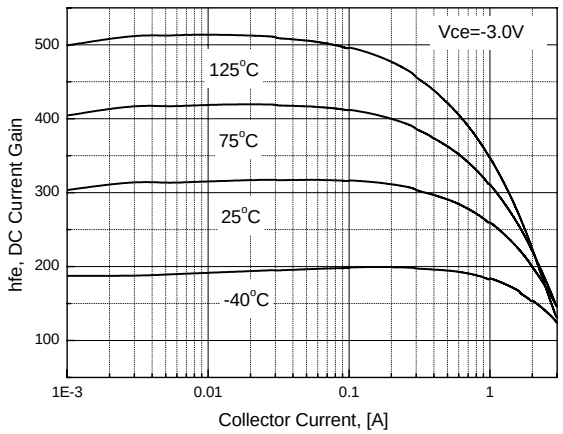


Figure 3. DC Current Gain,Vce=3V

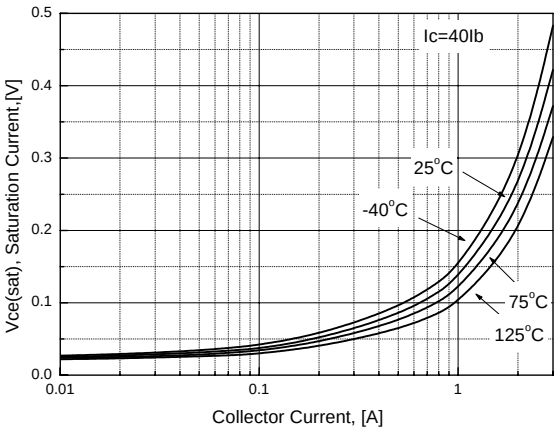


Figure 4. Collector-Emitter Satuation Voltage(1)

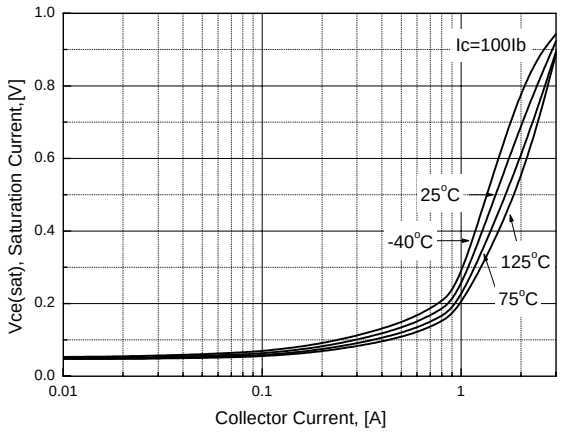


Figure 5. Collector-Emitter Satuation Voltage(2)

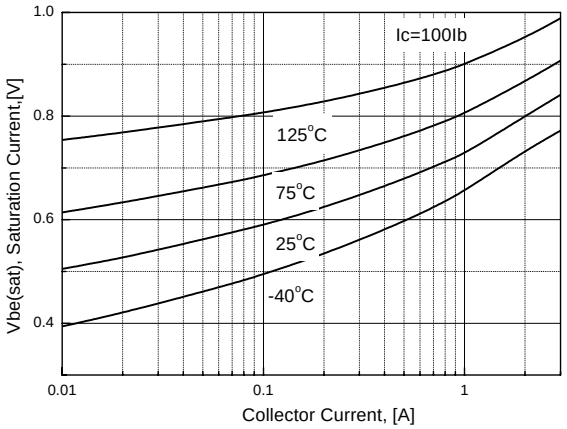


Figure 6. Base-Emitter Saturation Voltage

Typical Performance Characteristics (Continued)

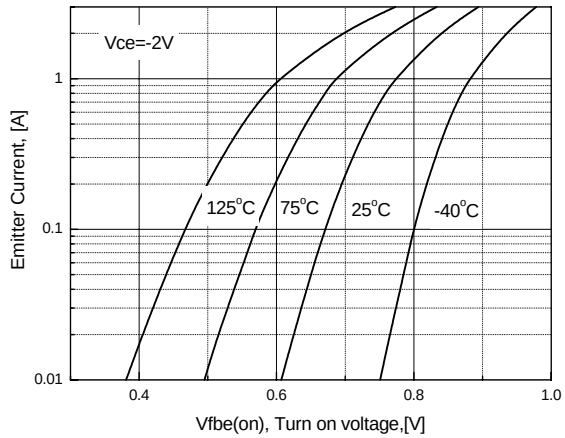


Figure 7. Base- Emitter Turn On Voltage

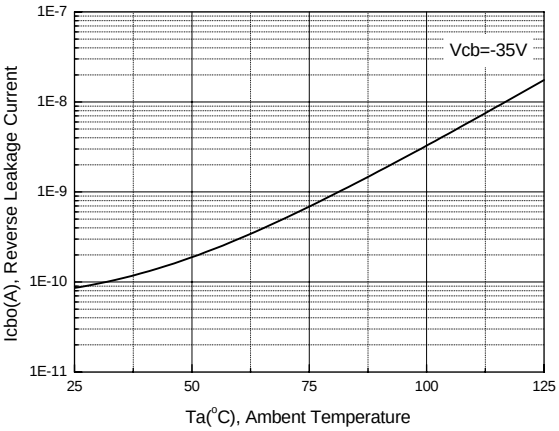


Figure 8. Collector-Base Leakage Current

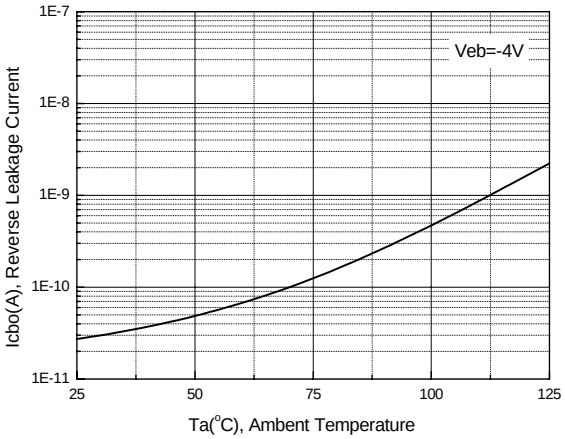


Figure 9. Base-Emitter Leakage Current

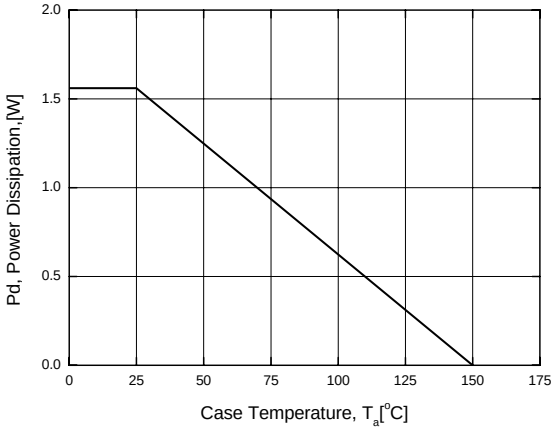


Figure 10. Power Derating

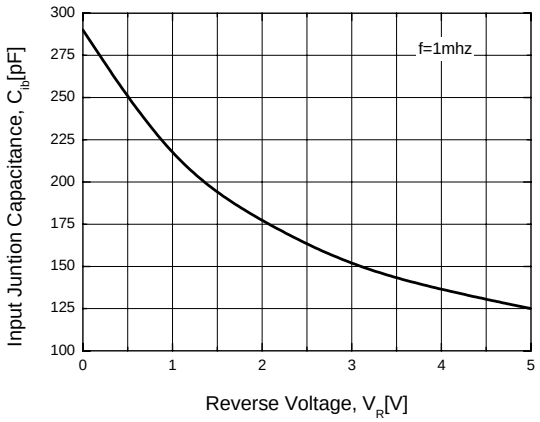


Figure 11. Input Capacitance

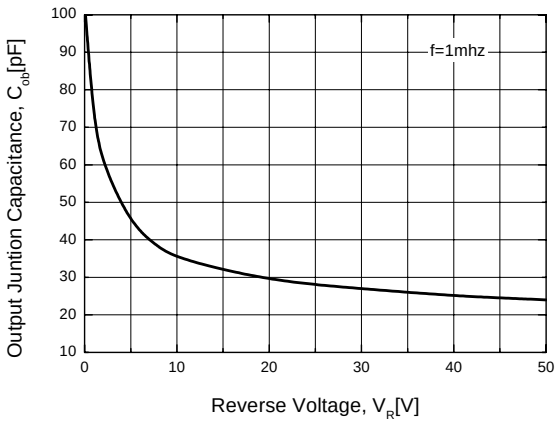
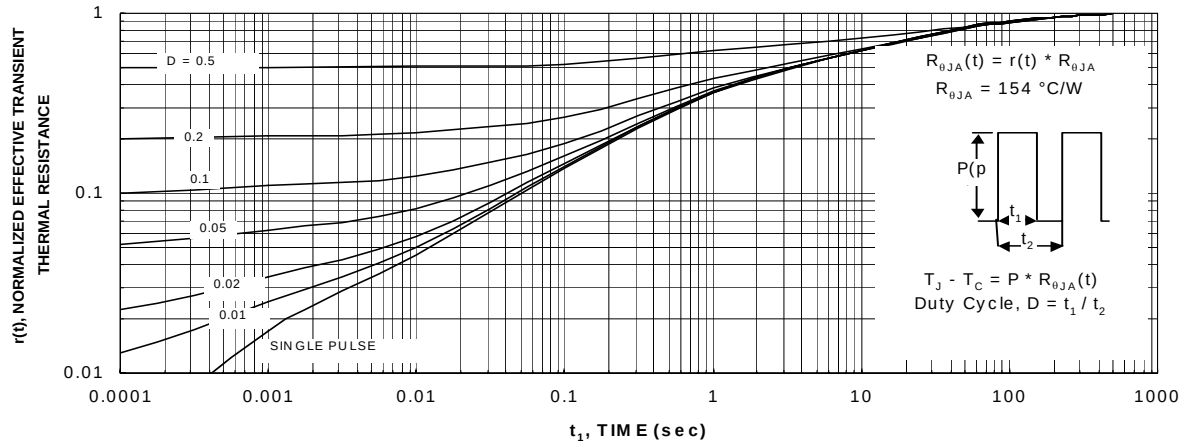


Figure 12. Output Capacitance

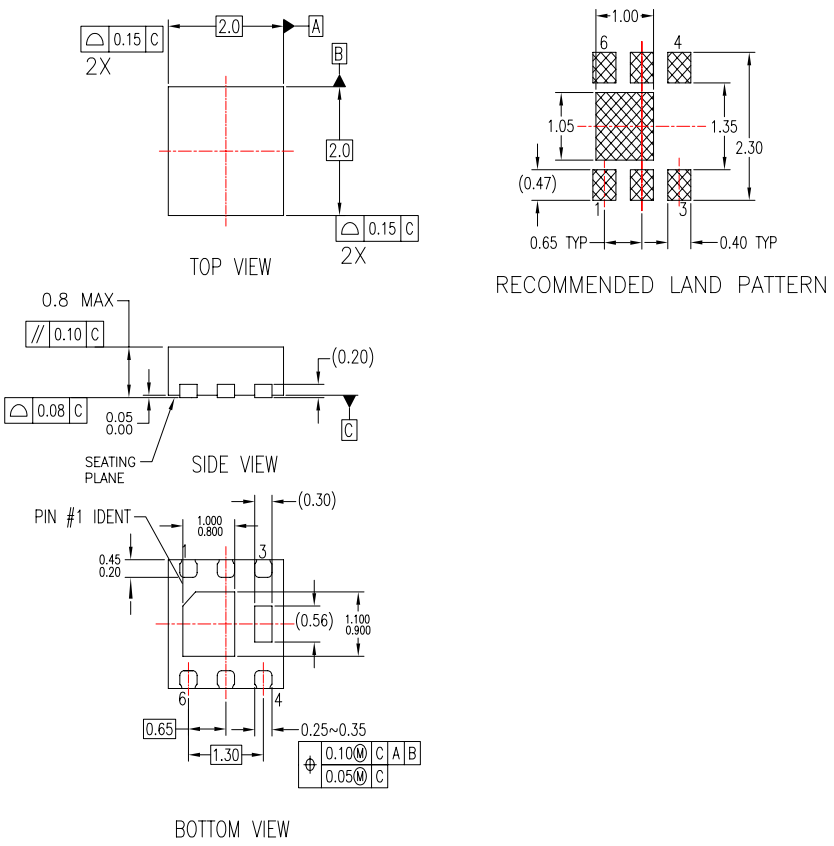
Typical Performance Characteristics (Continued)

Figure 12. Transient Thermal Response



Mechanical Dimensions

MicroFET2X2



NOTES:

A. NOT FULLY CONFORM TO JEDEC REGISTRATION MO-229 DATED AUG/2003
B. DIMENSIONS ARE IN MILLIMETERS.
C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994

MLP06LrevA

Dimensions in Milimeters

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CROSSVOLT™	GTO™	MICROWIRE™	QT Optoelectronics™	TCM™
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EcoSPARK™	I^2C™	MSXPro™	RapidConfigure™	TINYOPTO™
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FACT Quiet Series™		OPTOPLANAR™	SILENT SWITCHER®	UniFET™
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