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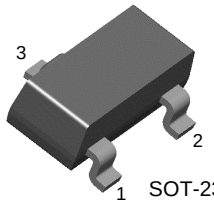
FJV3102R

Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R_1=10KΩ, R_2=10KΩ)
- Complement to FJV4102R



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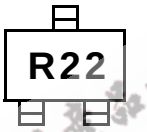
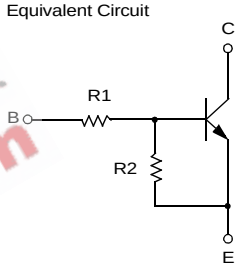
1. Base 2. Emitter 3. Collector

Marking



Equivalent Circuit



NPN Epitaxial Silicon Transistor

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	50	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=10μA, I_E=0	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=100μA, I_B=0	50			V
I_{CBO}	Collector Cut-off Current	V_{CB}=40V, I_E=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=5V, I_C=5mA	30			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=0.5mA			0.3	V
f_T	Current Gain Bandwidth Product	V_{CE}=10V, I_C=5mA		250		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0 f=1.0MHz		3.7		pF
V_I(off)	Input Off Voltage	V_{CE}=5V, I_C=100μA	0.5			V
V_I(on)	Input On Voltage	V_{CE}=0.3V, I_C=10mA			3	V
R_1	Input Resistor		7	10	13	KΩ
R_1/R_2	Resistor Ratio		0.9	1	1.1	

Typical Characteristics

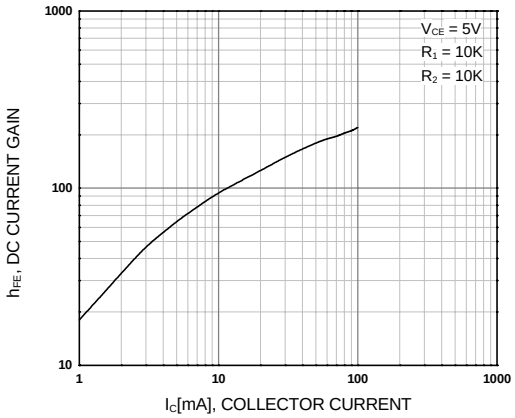


Figure 1. DC current Gain

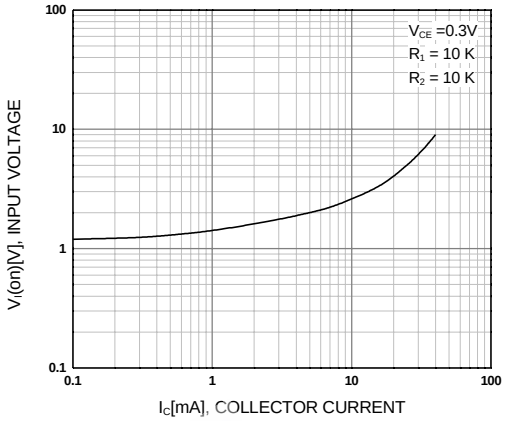


Figure 2. Input On Voltage

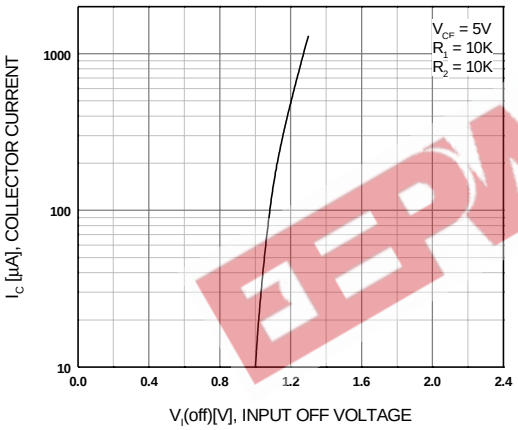


Figure 3. Input Off Voltage

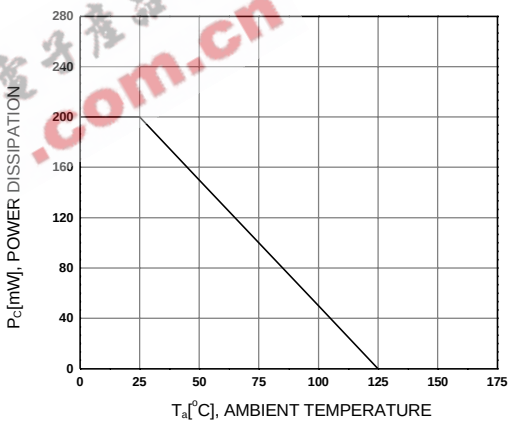


Figure 4. Power Derating

Package Dimensions

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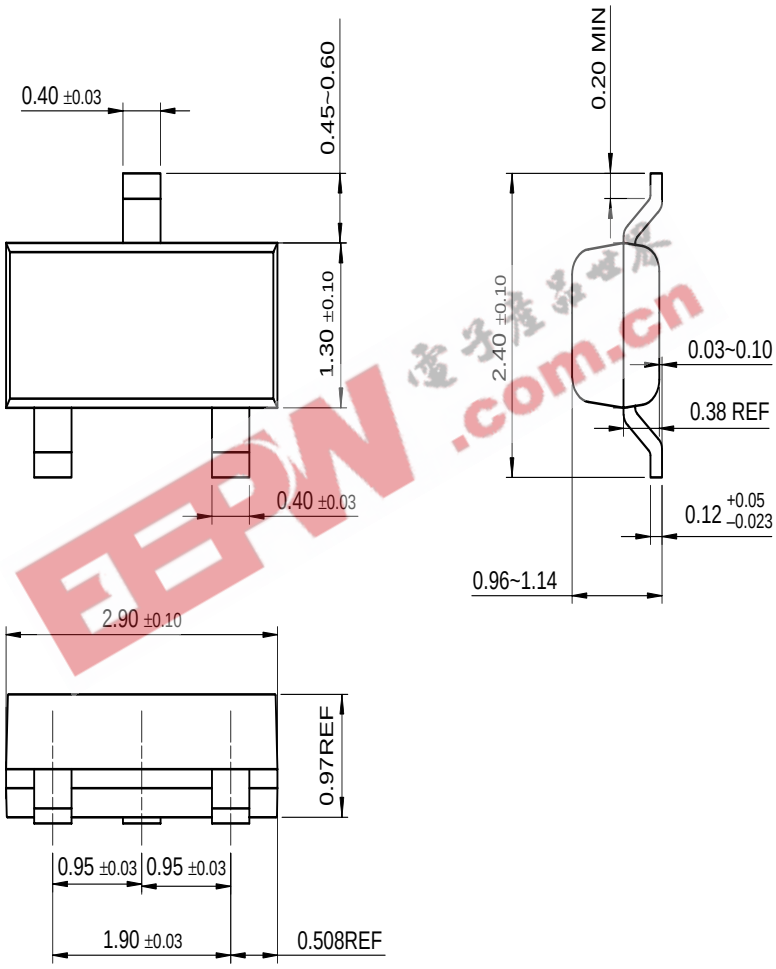

Dimensions in Millimeters

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DOME™	HiSeC™	Power247™	SuperSOT™-6
EcoSPARK™	I^2C™	PowerTrench®	SuperSOT™-8
E^2CMOS™	ISOPLANAR™	QFET™	SyncFET™
EnSigna™	LittleFET™	QS™	TinyLogic™
FACT™	MicroFET™	QT Optoelectronics™	TruTranslation™
FACT Quiet series™	MicroPak™	Quiet Series™	UHC™
FAST®	MICROWIRE™	SLIENT SWITCHER®	UltraFET®

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