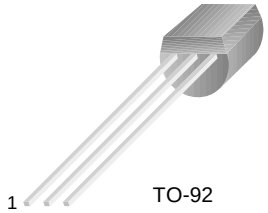
FAIRCHILD
SEMICONDUCTOR®

KSC5019

Low Saturation

- V_{CE}(sat)=0.5V at I_C=2A, I_B=50mA



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1. Emitter 2. Collector 3. Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CES}	Collector-Emitter Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	2	A
I_{CP}	* Collector Current (Pulse)	5	A
I_B	Base Current	2	A
P_C	Collector Power Dissipation	750	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

* PW≤10ms, Duty Cycle≤30%

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB}=30V, I_E=0			100	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}=6V, I_C=0			100	nA
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=10mA, I_B=0	10			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=1mA, I_C=0	6			V
h_{FE1} h_{FE2}	DC Current Gain	V_{CE}=1V, I_C=0.5A V_{CE}=1V, I_C=2A	140 70	 200	600	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=2A, I_B=50mA		0.2	0.5	V
V_{BE} (on)	Base Emitter On Voltage	V_{CE}=1V, I_C=2A		0.86	1.5	V
f_T	Current Gain Bandwidth Product	V_{CE}=1V, I_C=0.5A		150		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0, f=1MHz		27		pF

h_{FE} Classification

Classification	L	M	N	P
h_{FE}	140 ~ 240	200 ~ 330	300 ~ 450	420 ~ 600

Typical Characteristics

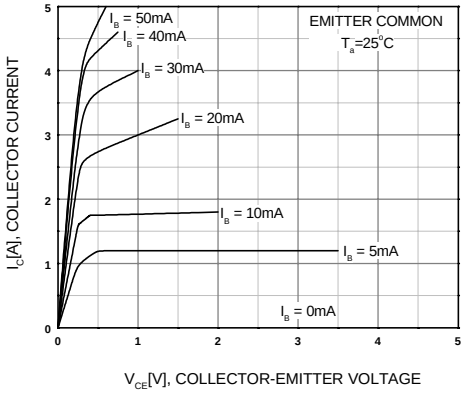

Figure 1. Static Characteristic

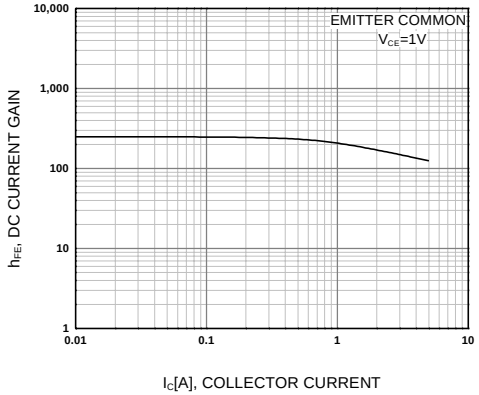

Figure 2. DC current Gain

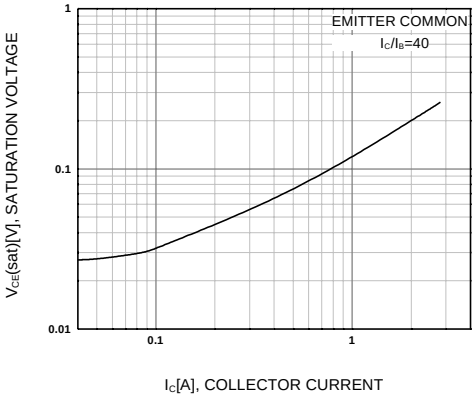

Figure 3. Collector-Emitter Saturation Voltage

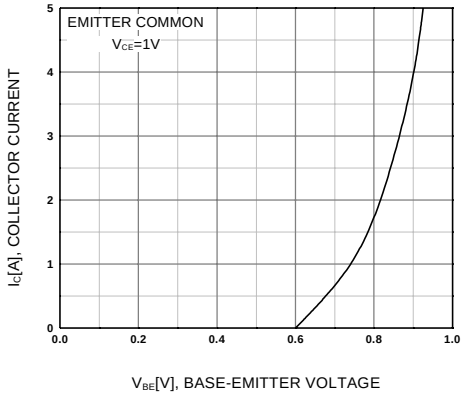

Figure 4. Base-Emitter On Voltage

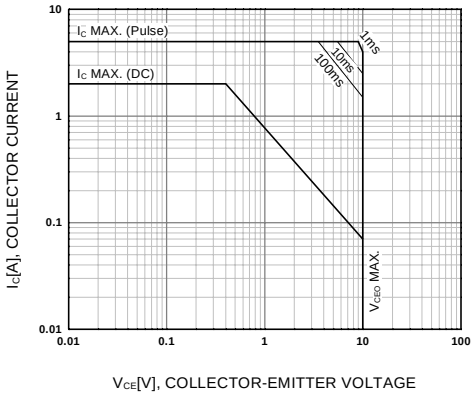

Figure 5. Safe Operating Area

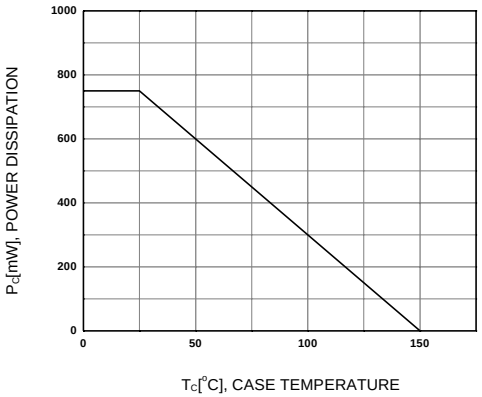

Figure 6. Power Derating

Package Dimensions

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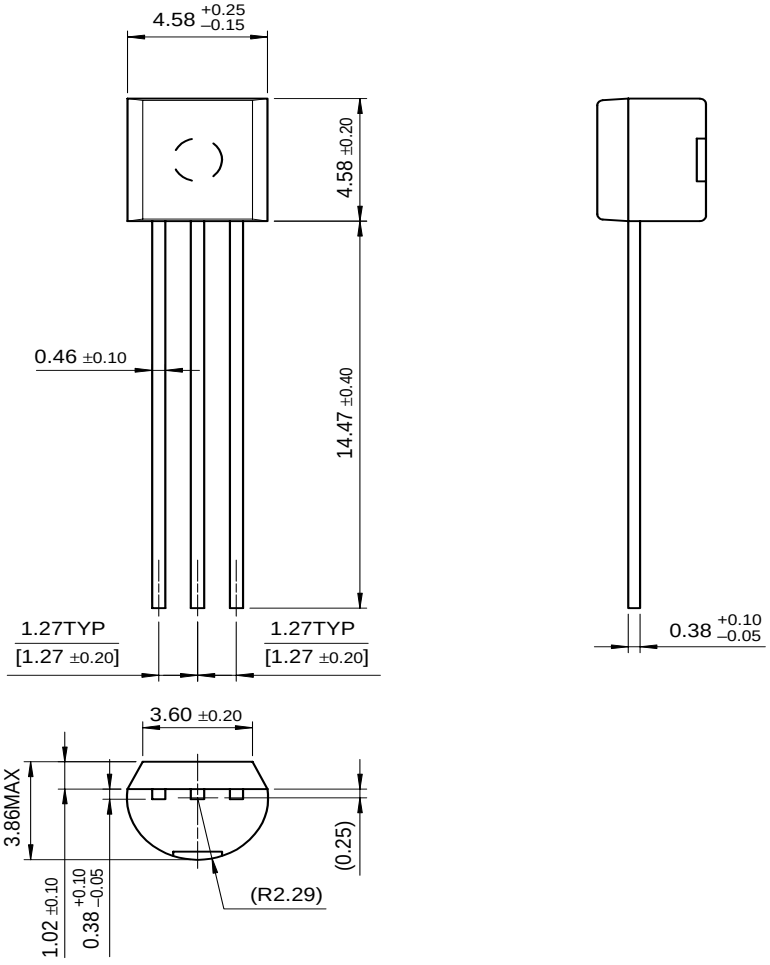

Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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