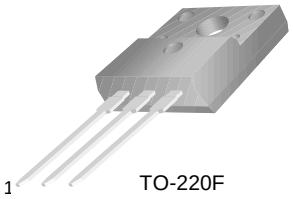
FAIRCHILD
SEMICONDUCTOR®

KSC5042F

High Voltage Switchihg Dynamic Focus Application

- High Collector-Emitter Breakdown Voltage : BV_{CEO}=900V
- Small C_{ob} =2.8pF (Typ.)
- Wide S.O.A
- High reliability



TO-220F

1.Base 2.Collector 3.Emitter

NPN Triple Diffused Planar Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	900	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	100	mA
I_{CP}	Collector Current (Pulse)	300	mA
P_C	Collector Dissipation (T_C=25°C)	6	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 1mA, I_E = 0	1500			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	900			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 900V, I_E = 0			10	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V, I_C = 0			10	μA
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 10mA	30			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 20mA, I_B = 4mA			5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 20mA, I_B = 4mA			2	V
C_{ob}	Output Capacitance	V_{CB} = 100V, f = 1MHz		2.8		pF

Typical Characteristics

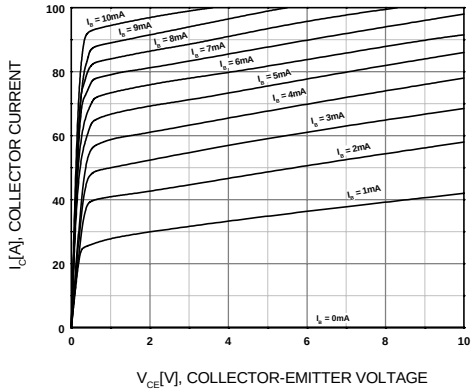


Figure 1. Static Characteristic

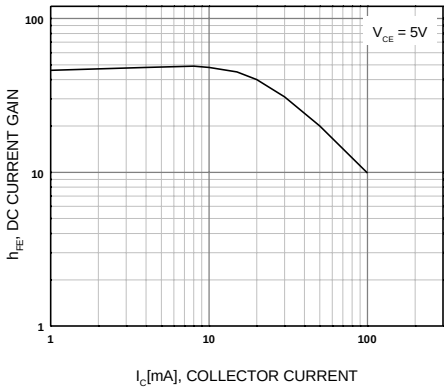


Figure 2. DC current Gain

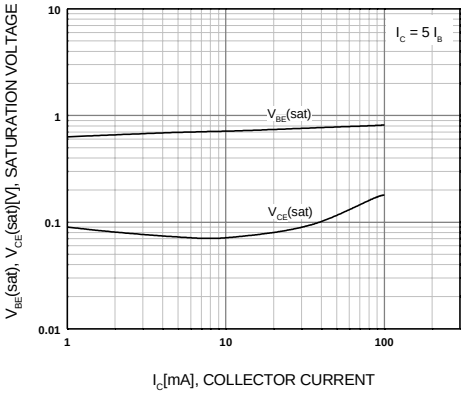


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

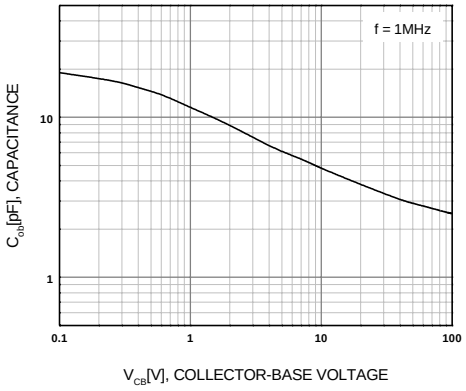


Figure 4. Collector-Base Capacitance

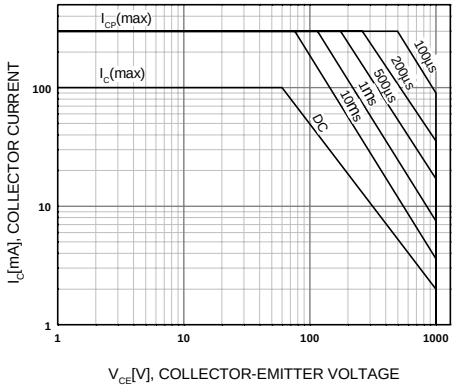


Figure 5. Safe Operating Area

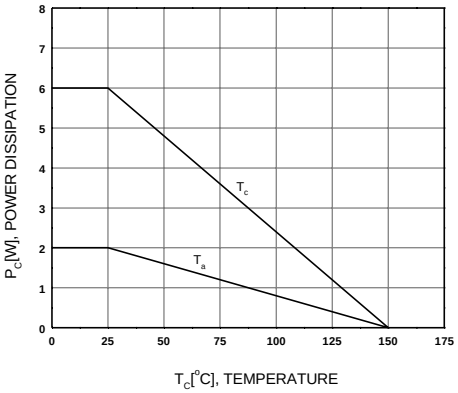
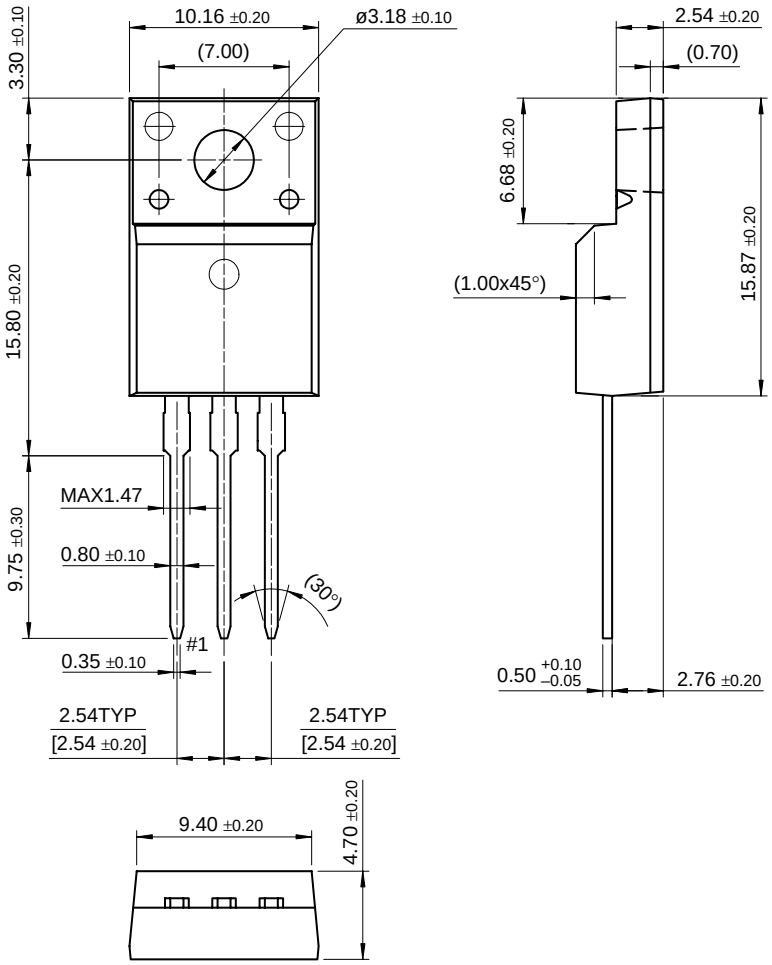


Figure 6. Power Derating

Package Dimensions

TO-220F



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™
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EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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