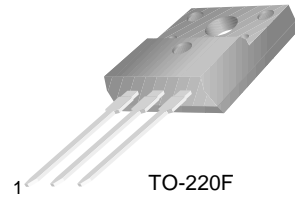


# KSC5042F

KSC5042F

## High Voltage Switching 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 $T_C=25^\circ C$ 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 ( $T_C=25^\circ C$ )	6	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

### Electrical Characteristics $T_C=25^\circ C$ 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	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 4V, I_C = 0$			10	$\mu A$
$h_{FE}$	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

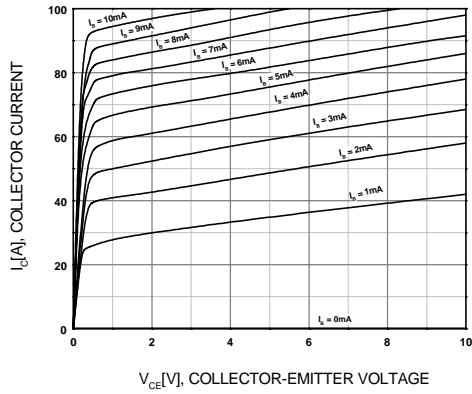


Figure 1. Static Characteristic

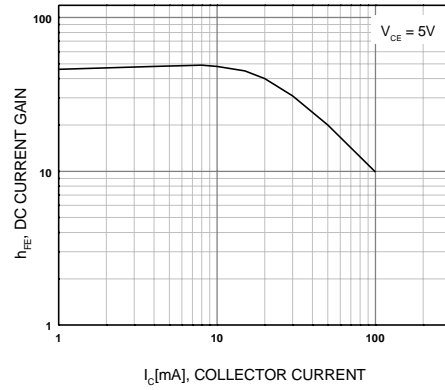


Figure 2. DC current Gain

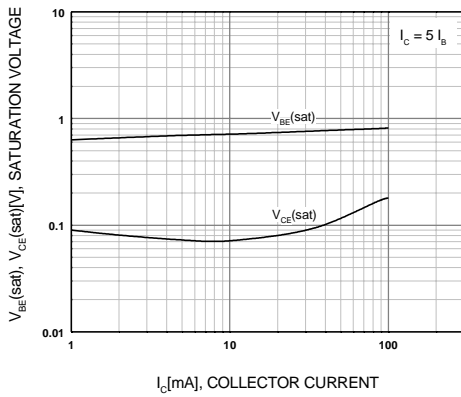


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

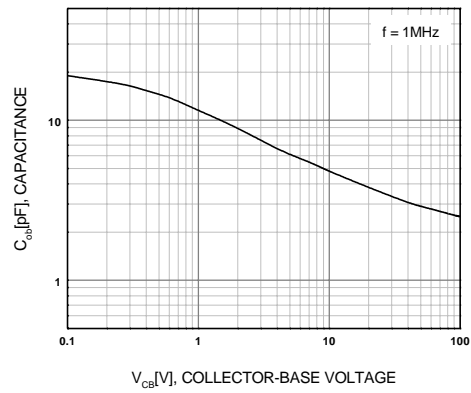


Figure 4. Collector-Base Capacitance

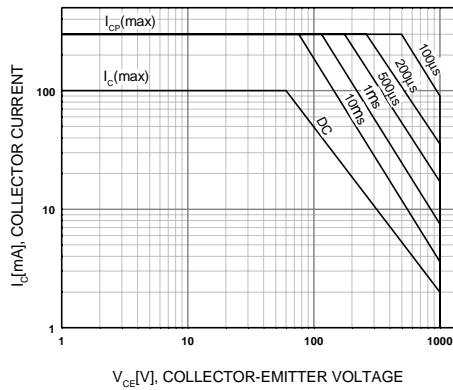


Figure 5. Safe Operating Area

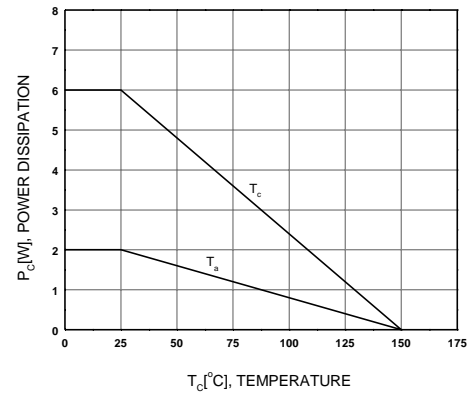
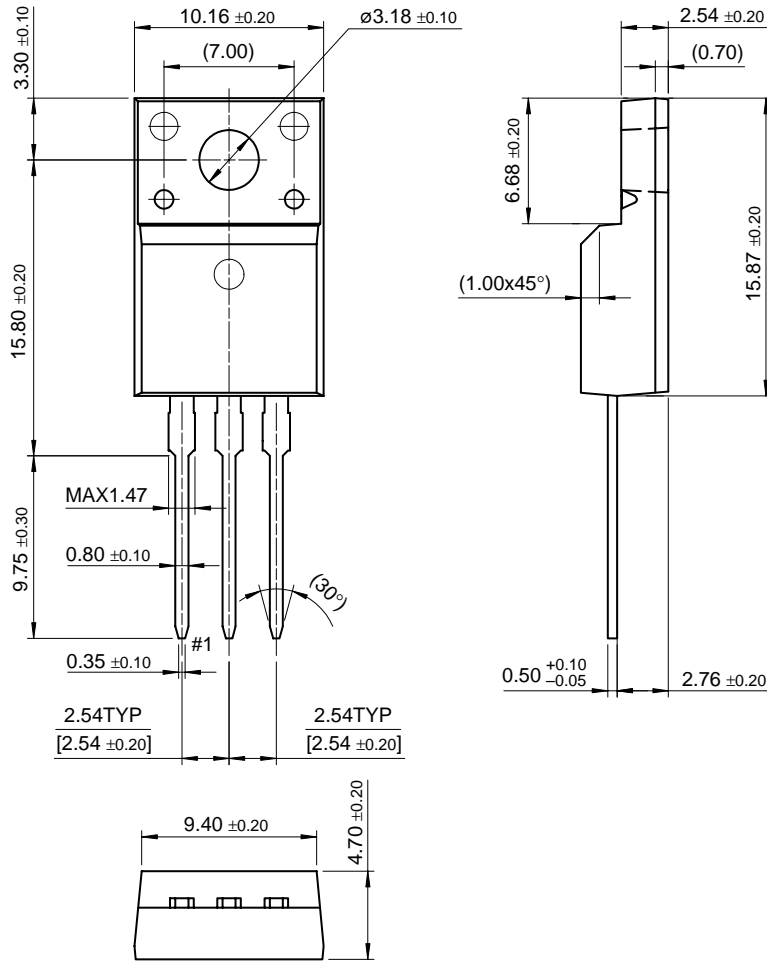


Figure 6. Power Derating

# Package Dimensions

KSC5042F

## TO-220F



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
CoolFET <sup>™</sup>	FAST <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
CROSSVOLT <sup>™</sup>	FRFET <sup>™</sup>	MicroPak <sup>™</sup>	QFET <sup>™</sup>	SuperSOT <sup>™</sup> -8
DOMET <sup>™</sup>	GlobalOptoisolator <sup>™</sup>	MICROWIRE <sup>™</sup>	QS <sup>™</sup>	SyncFET <sup>™</sup>
EcoSPARK <sup>™</sup>	GTO <sup>™</sup>	MSX <sup>™</sup>	QT Optoelectronics <sup>™</sup>	TinyLogic <sup>™</sup>
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Across the board. Around the world. <sup>™</sup>		OCXPro <sup>™</sup>	RapidConnect <sup>™</sup>	UltraFET <sup>®</sup>
The Power Franchise <sup>™</sup>		OPTOLOGIC <sup>®</sup>	SILENT SWITCHER <sup>®</sup>	VCX <sup>™</sup>
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