

# KSC5042

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## High Voltage Switching Dynamic Focus Application

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



TO-220  
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 ( $T_C=25^\circ C$ )	10	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

\* Pulse test:  $PW = 300\mu s$ , Duty Cycle = 2% pulsed

# Typical Characteristics

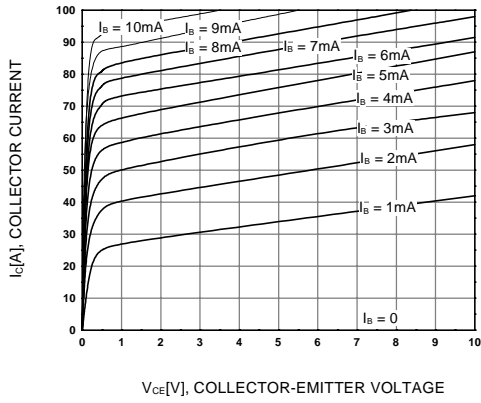


Figure 1. Static Characteristic

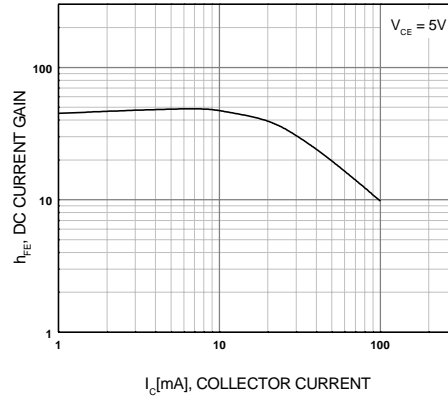


Figure 2. DC current Gain

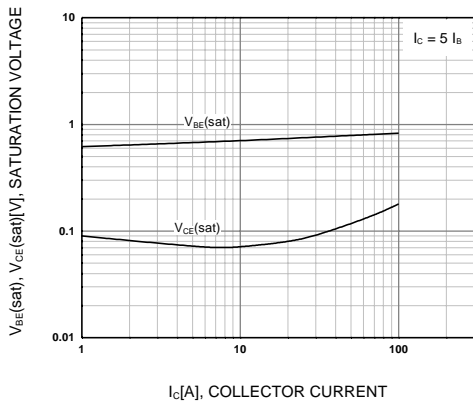


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

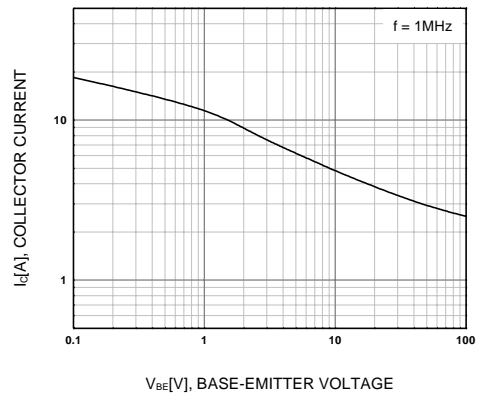


Figure 4. Collector Output Capacitance

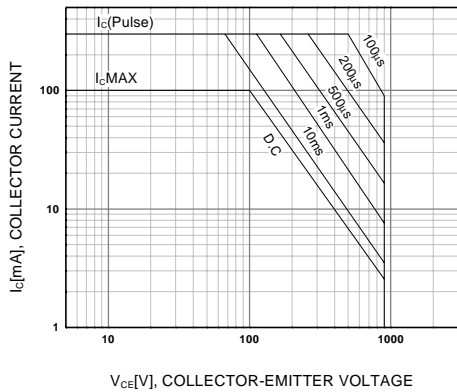


Figure 5. Safe Operating Area

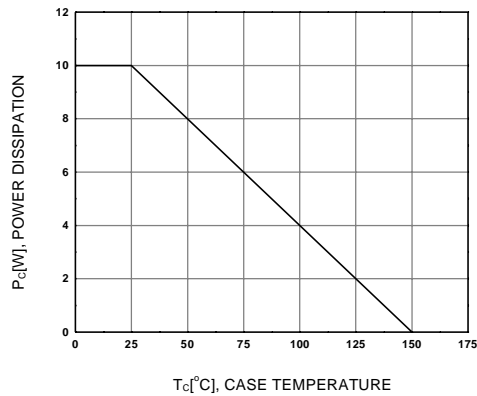


Figure 6. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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