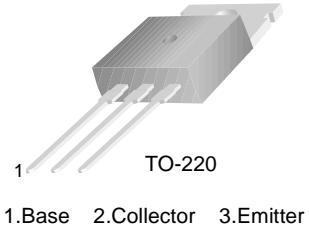


## KSC5042

### High Voltage Switching Dynamic Focus Application

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



### NPN Triple Diffused Planar Silicon Transistor

**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

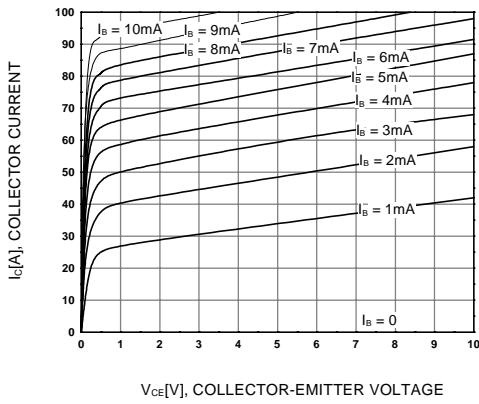
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CEO}$	Collector-Emitter Voltage	900	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	100	mA
$I_{CP}$	Collector Current (Pulse)	300	mA
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	10	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

**Electrical Characteristics**  $T_C=25^\circ\text{C}$  unless otherwise noted

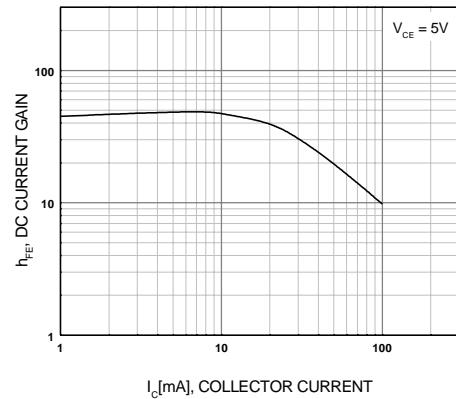
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}, I_E = 0$	1500			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}, I_B = 0$	900			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}, I_C = 0$	5			V
$I_{CBO}$	Collector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

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

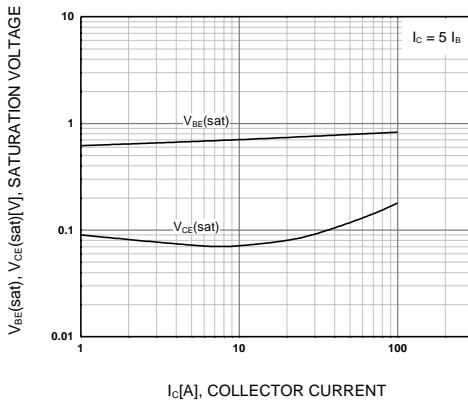
## Typical Characteristics



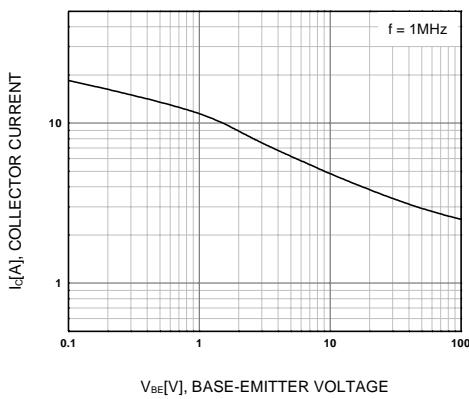
**Figure 1. Static Characteristic**



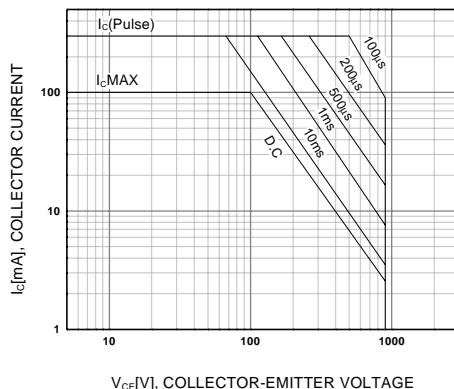
**Figure 2. DC current Gain**



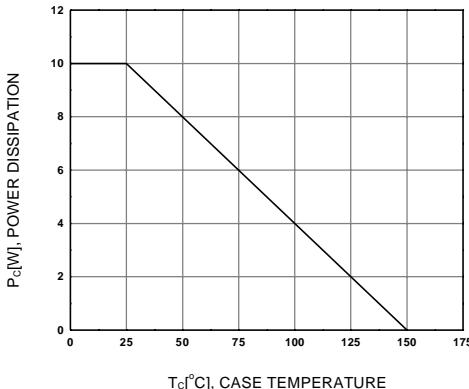
**Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Figure 4. Collector Output Capacitance**



**Figure 5. Safe Operating Area**



**Figure 6. Power Derating**

KSCC5042

## Package Demensions

TO-220

