

## KSP13/14

NPN EPITAXIAL SILICON TRANSISTOR

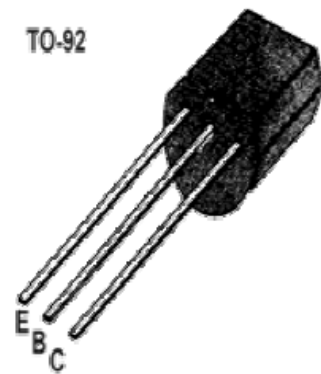
DARINGTON TRANSISTOR

\*Collector-Emmitter Voltage:  $V_{CES}=30V$

\*Collector Dissipation:  $P_c(\max)=625mW$

### ABSOLUTE MAXIMUM RATINGS( $T_A=25\text{ }^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emmitter Voltage	$V_{CES}$	30	V
Emmitter -Base Voltage	$V_{EBO}$	10	V
Collector Current	$I_c$	500	mA
Collector Dissipation	$P_c$	625	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~150	$^\circ\text{C}$



### ELECTRCAL CHARACTERISTICS( $T_A=25\text{ }^\circ\text{C}$ )

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector- Emmitter Breakdown Voltage	$BV_{CES}$	$I_c=100\mu A, I_B=0$	30		V
Collector-Cut-off Current	$I_{CBO}$	$V_{CB}=30V, I_E=0$		100	nA
Emmitter-Cut-off Current	$I_{EBO}$	$V_{BE}=10V, I_c=0$		100	nA
DC Current Gain	:KSP13	$h_{FE}$	$V_{CE}=5V, I_c=10mA$	5,000	
			$V_{CE}=5V, I_c=10mA$	10,000	
	:KSP14	$h_{FE}$	$V_{CE}=5V, I_c=100mA$	10,000	
			$V_{CE}=5V, I_c=100mA$	20,000	
Collector- Emmitter Saturation Voltage	$V_{CE(sat)}$	$I_c=100mA, I_B=0.1mA$		1.5	V
Basa- Emmitter On Voltage	$V_{BE(on)}$	$V_{CE}=5V, I_c=100mA$		2.0	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=5V, I_c=10mA, F=100M$	125		MHZ