

## KSP25/26/27

## NPN EPITAXIAL SILICON DARLINGTON TRANSISTOR

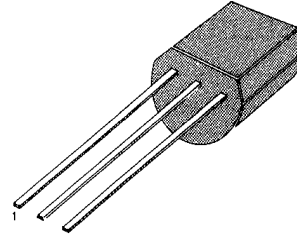
### DARLINGTON TRANSISTOR

- Collector-Emitter Voltage:  $V_{CES}$ =KSP25: 40V  
KSP26: 50V  
KSP27: 60V
- Collector Dissipation:  $P_C$  (max) =625mW

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

| Characteristic         | Symbol    | Rating  | Unit             |
|------------------------|-----------|---------|------------------|
| Collector-Base Voltage | $V_{CES}$ |         |                  |
| :KSP25                 |           | 40      | V                |
| :KSP26                 |           | 50      | V                |
| :KSP27                 |           | 60      | V                |
| Emitter-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 | $^\circ\text{C}$ |

TO-92



1. Emitter 2. Base 3. Collector

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

| Characteristic                        | Symbol               | Test Conditions                         | Min | Max | Unit |
|---------------------------------------|----------------------|-----------------------------------------|-----|-----|------|
| Collector-Base Breakdown Voltage      | $BV_{CES}$           | $I_C=100\mu\text{A}$ , $I_E=0$          |     |     |      |
| :KSP25                                |                      |                                         | 40  |     | V    |
| :KSP26                                |                      |                                         | 50  |     | V    |
| :KSP27                                |                      |                                         | 60  |     | V    |
| Collector-Base Breakdown Voltage      | $BV_{CBO}$           | $I_C=100\mu\text{A}$ , $I_E=0$          |     |     |      |
| :KSP25                                |                      |                                         | 40  |     | V    |
| :KSP26                                |                      |                                         | 50  |     | V    |
| :KSP27                                |                      |                                         | 60  |     | V    |
| Collector Cut-off Current             | $I_{CBO}$            | $V_{CE}=30\text{V}$ , $I_E=0$           |     | 100 | nA   |
| :KSP25                                |                      | $V_{CE}=40\text{V}$ , $I_E=0$           |     | 100 | nA   |
| :KSP26                                |                      | $V_{CE}=50\text{V}$ , $I_E=0$           |     | 100 | nA   |
| :KSP27                                |                      | $V_{CE}=10\text{V}$ , $I_B=0$           |     | 100 | nA   |
| Emitter Cut-off Current               | $I_{CBO}$            | $V_{CE}=5\text{V}$ , $I_C=10\text{mA}$  | 10K |     |      |
| *DC Current Gain                      | $h_{FE}$             | $V_{CE}=5\text{V}$ , $I_C=100\text{mA}$ | 10K |     |      |
| *Collector-Emitter Saturation Voltage | $V_{CE}(\text{sat})$ | $I_C=100\text{mA}$ , $I_B=0.1\text{mA}$ |     | 1.5 | V    |
| *Base-Emitter On Voltage              | $V_{BE}(\text{sat})$ | $V_{CE}=5\text{V}$ , $I_C=100\text{mA}$ |     | 2   | V    |

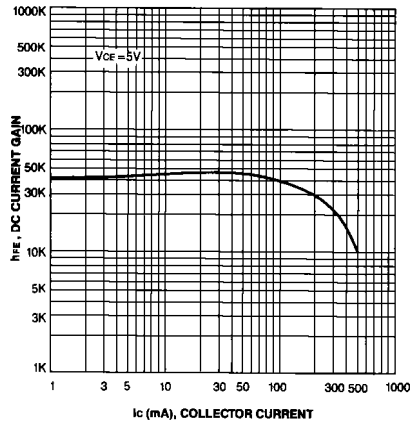
\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

Base

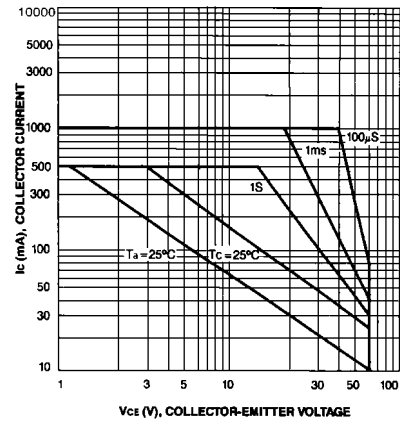
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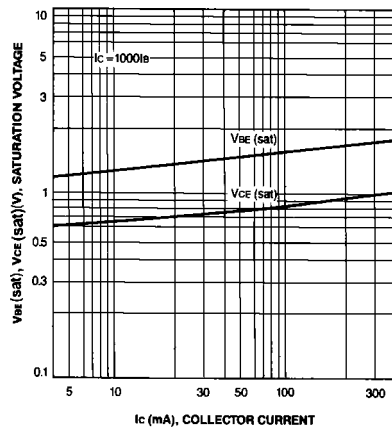
DC CURRENT GAIN



SAFE OPERATING AREA



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



BASE-EMITTER ON VOLTAGE

