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KSC2752

High Speed High Voltage Swiching Industrial Use



NPN Epitaxial Silicon Transistor

1. Emitter 2.Collector 3.Base

Absolute Maximum Ratings T_C=25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|------------------|--|------------|-------|
| V _{CBO} | Collector-Base Voltage | 500 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V _{EBO} | Emitter-Base Voltage | 7 | V |
| I _C | Collector Current (DC) | 0.5 | А |
| I _{CP} | *Collector Current (Pulse) | 1 | А |
| I _B | Base Current (DC) | 0.25 | Α |
| P _C | Collector Dissipation (T _a =25°C) | 1 | W |
| P _C | Collector Dissipation (T _C =25°C) | 10 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{STG} | Storage Temperature | - 55 ~ 150 | °C |

^{*} PW≤300μs, Duty Cycle≤10%

Electrical Characteristics T_C=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|--------------------------------------|--|--|----------|------|-------|
| V _{CEO} (sus) | Collector-Emitter Sustaining Voltage | $I_C = 0.3A$, $I_{B1} = 0.06A$, $L = 10mH$ | 400 | | V |
| V _{CEX} (sus)1 | Collector-Emitter Sustaining Voltage | $I_C = 0.3A$, $I_{B1} = -I_{B2} = 0.06A$ $V_{BE}(off) = -5V$, L =10mH, Clamped | 450 | | V |
| V _{CEX} (sus)2 | Collector-Emitter Sustaining Voltage | $I_C = 0.6A$, $I_{B1} = 0.2A$, $I_{B2} = -0.06A$ $V_{BE}(off) = -5V$, $L = 10mH$, Clamped | 400 | | V |
| I _{CBO} | Collector Cut-off Current | $V_{CB} = 400V, I_{E} = 0$ | | 10 | μΑ |
| I _{CER} | Collector Cut-off Current | $V_{CE} = 400V, R_{BE} = 51\Omega, T_{C} = 125^{\circ}C$ | | 1 | mA |
| I _{CEX1} | Collector Cut-off Current | $V_{CE} = 400V, R_{BE}(off) = -1.5V$ | | 10 | μΑ |
| I _{CEX2} | Collector Cut-off Current | $V_{CE} = 400V, R_{BE}(off) = -1.5V$ @ $T_{C} = 125^{\circ}C$ | | 1 | mA |
| I _{EBO} | Emitter Cut-off Current | $V_{EB} = 5V, I_{C} = 0$ | | 10 | μΑ |
| h _{FE1} h _{FE2} | * DC Current Gain | $V_{CE} = 5V, I_{C} = 0.05A$ $V_{CE} = 5V, I_{C} = 0.3A$ | 20 10 | 80 | |
| V _{CE} (sat) | * Collector-Emitter Saturation Voltage | $I_C = 0.3A, I_B = 0.06A$ | | 1 | V |
| V _{BE} (sat) | * Base-Emitter Saturation Voltage | $I_C = 0.3A, I_B = 0.06A$ | | 2 | V |
| t _{ON} | Turn ON Time | V _{CC} = 150V, I _C = 0.3A | | 1 | μs |
| t _{STG} | Storage Time | $I_{B1} = -I_{B2} = 0.06A, R_L = 500\Omega$ | | 2.5 | μs |
| t _F | Fall Time | PW = 50μs, Duty Cycle≤2% | | 1 | μs |

^{*} Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

h_{FE} Classification

| Classification | R | 0 | Y |
|------------------|---------|---------|---------|
| h _{FE1} | 20 ~ 40 | 30 ~ 60 | 40 ~ 80 |

Typical Characteristics

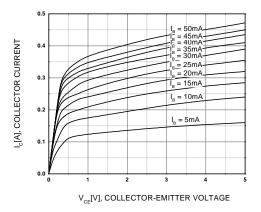


Figure 1. Static Characteristic

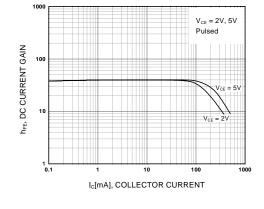


Figure 2. DC current Gain

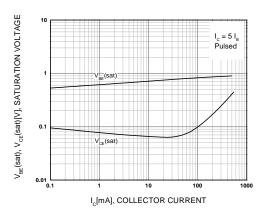


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

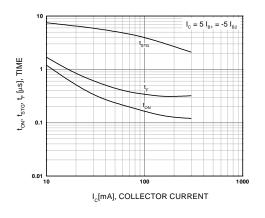


Figure 4. Switching Time

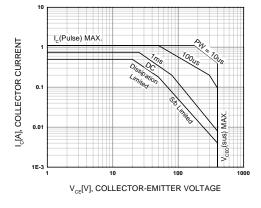


Figure 5. Safe Operating Area

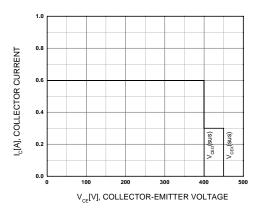
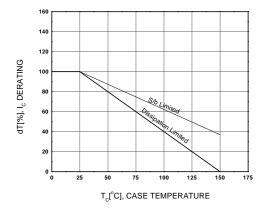


Figure 6. Reverse Bias Safe Operating Area

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Typical Characteristics (Continued)



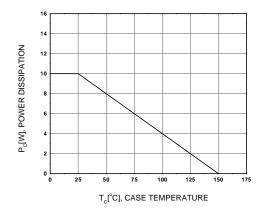
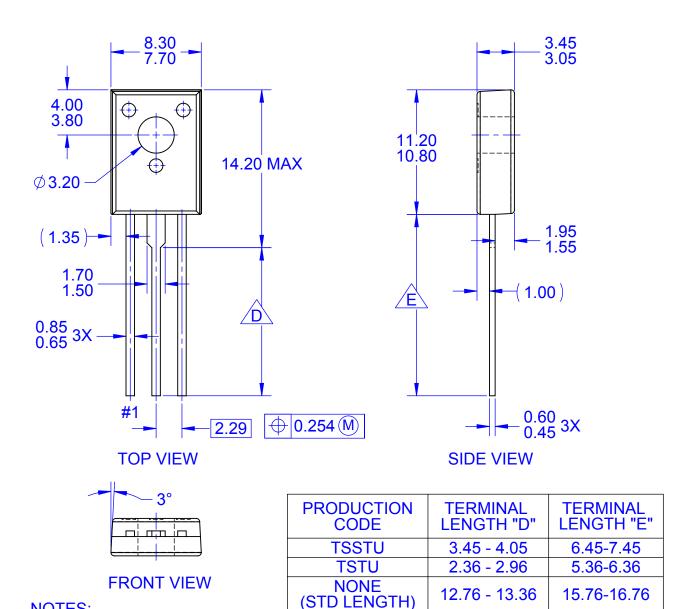


Figure 7. Derating Curve of Safe Operating Area

Figure 8. Power Derating



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- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS







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