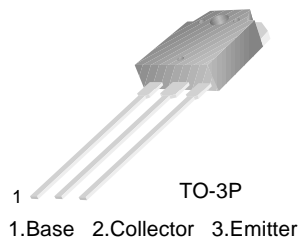


KSC3552

KSC3552

High Voltage and High Reliability

- High Speed Switching
- Wide SOA



NPN Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	1100	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	12	A
I_{CP}	Collector Current (Pulse)	30	A
I_B	Base Current	6	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	150	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	$I_C = 1\text{mA}, I_E = 0$	1100			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 5\text{mA}, I_B = 0$	800			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}, I_C = 0$	7			V
$V_{CEX(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 6\text{A}, I_{B1} = -I_{B2} = 1.2\text{A}$ $L = 500\mu\text{H}, \text{Clamped}$	800			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 800\text{V}, I_E = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			10	μA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 0.8\text{A}$ $V_{CE} = 5\text{V}, I_C = 4\text{A}$	10 8		40	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 6\text{A}, I_B = 1.2\text{A}$			2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 6\text{A}, I_B = 1.2\text{A}$			1.5	V
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		215		pF
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 0.8\text{A}$		15		MHz
t_{ON}	Turn ON Time	$V_{CC} = 400\text{V}$ $5 I_{B1} = -2.5 I_{B2} = I_C = 8\text{A}$ $R_L = 50\Omega$			0.5	μs
t_{STG}	Storage Time				3	μs
t_F	Fall Time				0.3	μs

h_{FE} Classification

Classification	N	R	O
h_{FE}	10 ~ 20	15 ~ 30	20 ~ 40

Typical Characteristics

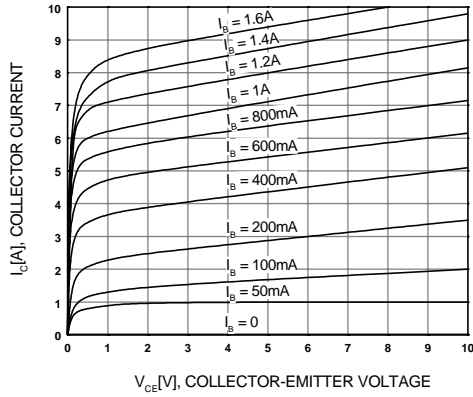


Figure 1. Static Characteristic

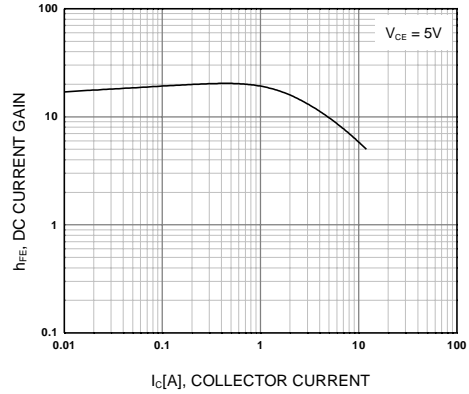


Figure 2. DC current Gain

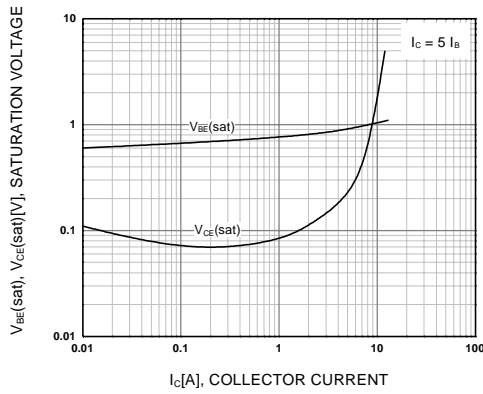


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

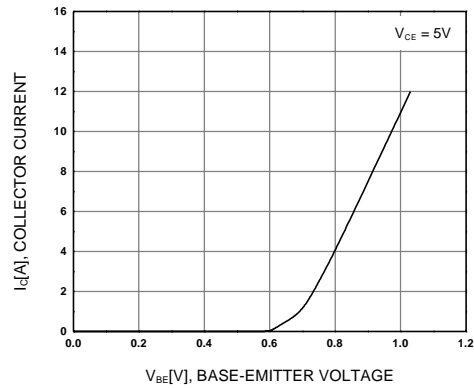


Figure 4. Base-Emitter on Voltage

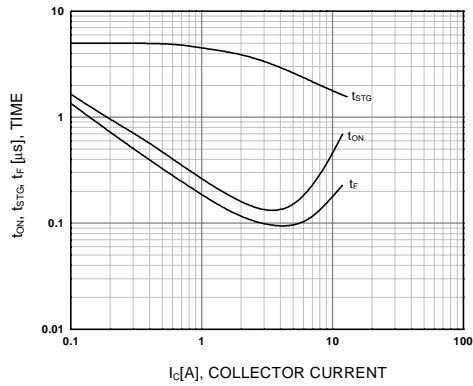


Figure 5. Turn On Time

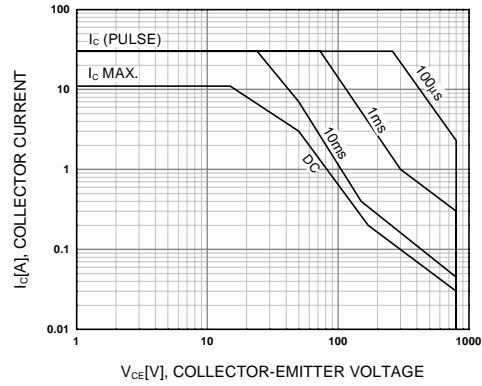


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

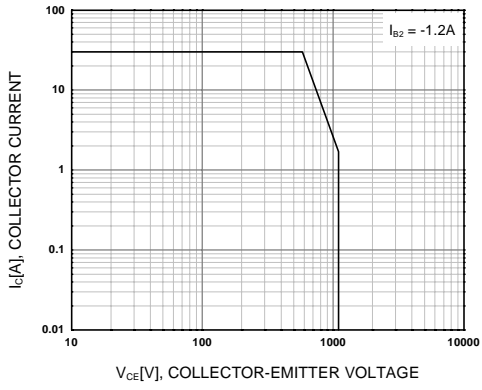


Figure 7. Reverse Bias Safe Operating Area

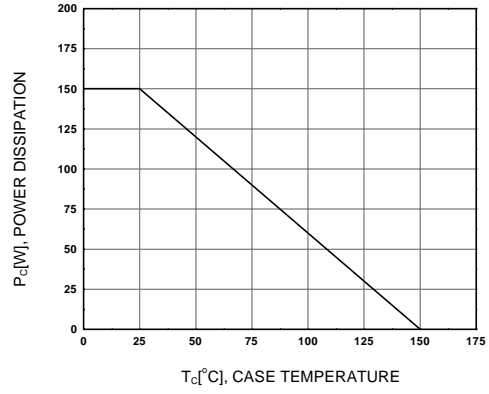
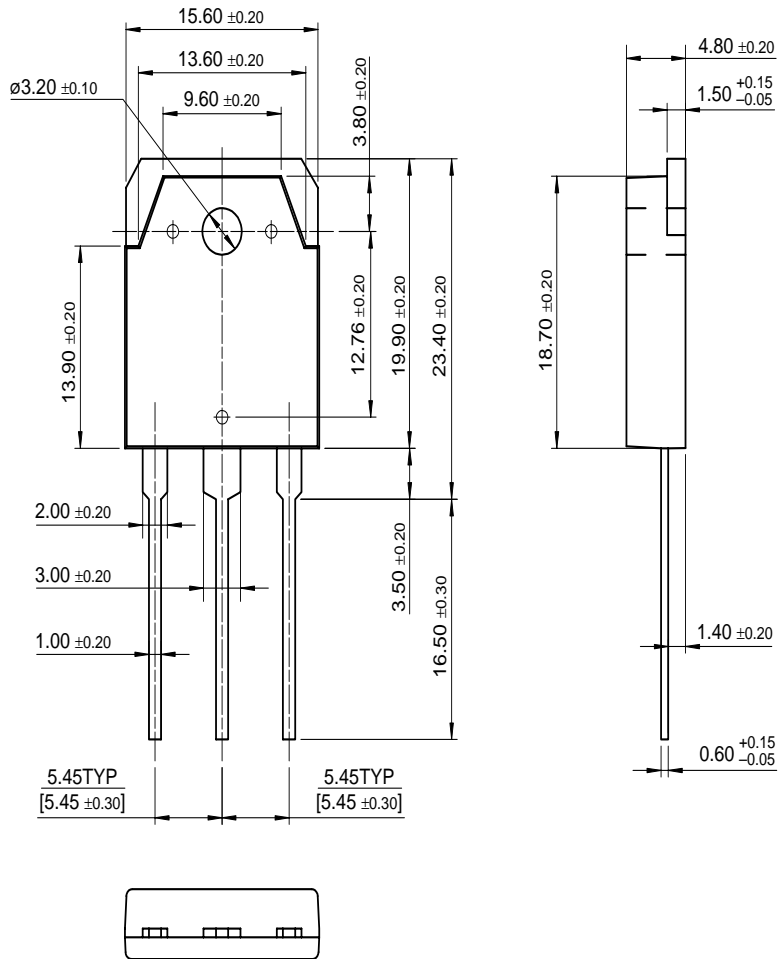


Figure 8. Power Derating

Package Dimensions

KSC3552

TO-3P



Dimensions in Millimeters

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