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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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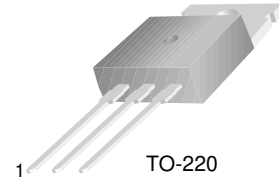
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



KSC5020

High Voltage, High Quality

- High Speed Switching : $t_f=0.1\mu s$
- Wide SOA



TO-220
1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	3	A
I_{CP}	Collector Current (Pulse)	6	A
I_B	Base Current (DC)	1	A
P_C	Collector Dissipation ($T_C=25^\circ C$)	40	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ C$

Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 1mA, I_E = 0$	800			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 5mA, I_B = 0$	500			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1mA, I_C = 0$	7			V
$V_{CEX(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 1.5A, I_{B1} = -I_{B2} = 0.6A$ $L = 2mH, Clamped$	500			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 500V, I_E = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5V, I_C = 0$			10	μA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = 5V, I_C = 0.3A$ $V_{CE} = 5V, I_C = 1.5A$	15 8		50	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1.5A, I_B = 0.3A$			1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1.5A, I_B = 0.3A$			1.5	V
C_{ob}	Output Capacitance	$V_{CB} = 10V, f = 1MHz$		50		pF
f_T	Current Gain Bandwidth Product	$V_{CE} = 10V, I_C = 0.3A$		18		MHz
t_{ON}	Turn On Time	$V_{CC} = 200V$			0.5	μs
t_{STG}	Storage Time	$I_C = 5I_{B1} = -2.5I_{B2} = 2A$			3	μs
t_F	Fall Time	$R_L = 100\Omega$			0.3	μs

h_{FE} Classification

Classification	R	O	Y
h_{FE1}	15 ~ 30	20 ~ 40	30 ~ 50

Typical Characteristics

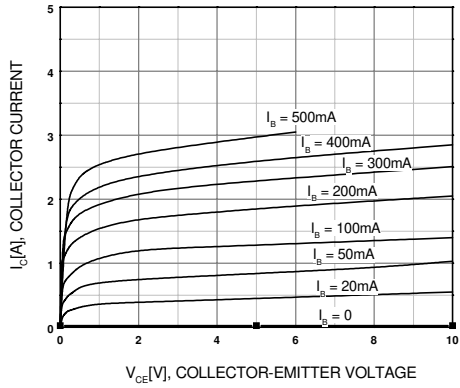


Figure 1. Static Characteristic

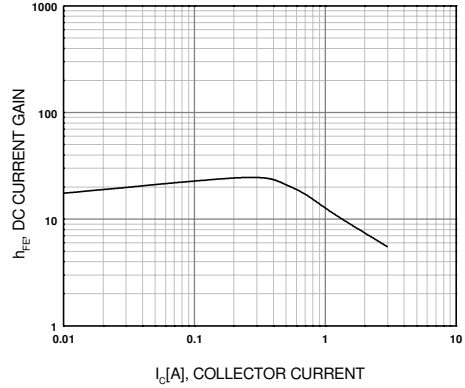


Figure 2. DC current Gain

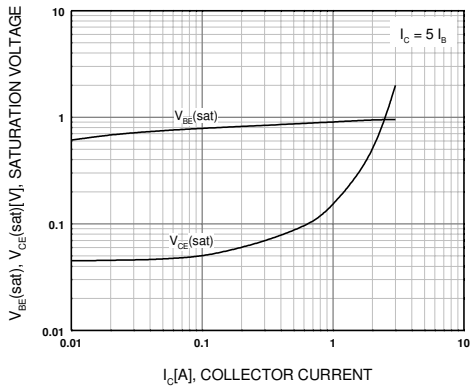


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

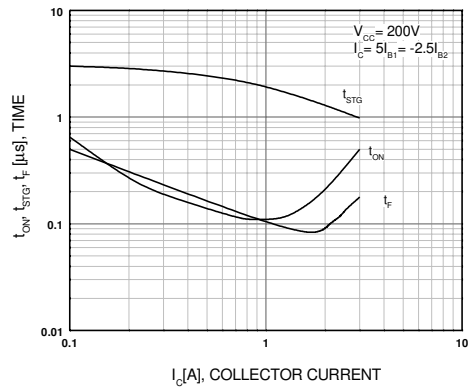


Figure 4. Turn On, Storage and Fall Time vs. Collector Current

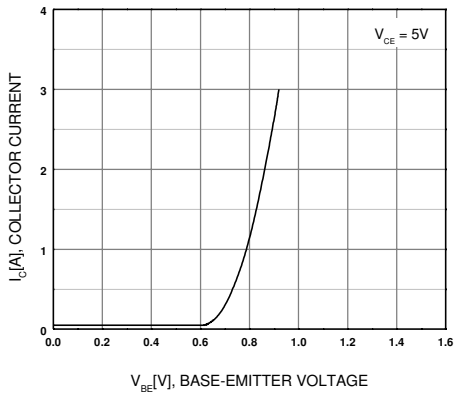


Figure 5. Base-Emitter On Voltage

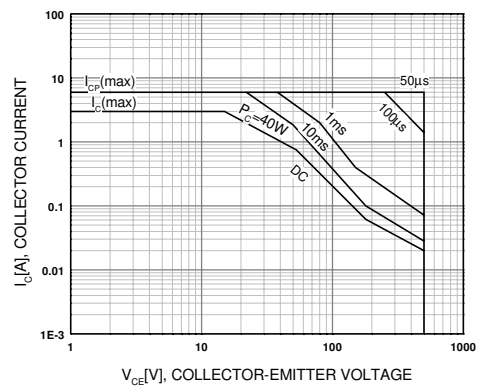


Figure 6. Forward Bias Safe Operating Area

Typical Characteristics (Continued)

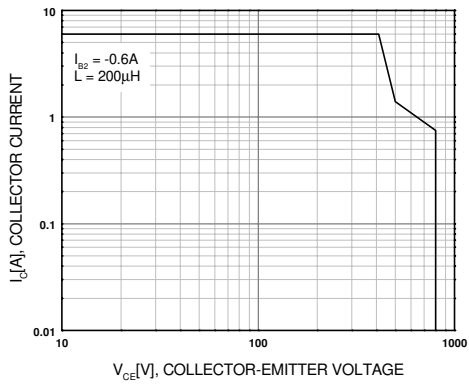


Figure 7. Reverse Bias Safe Operating Area

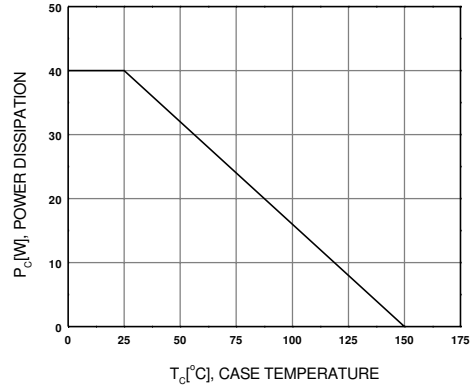
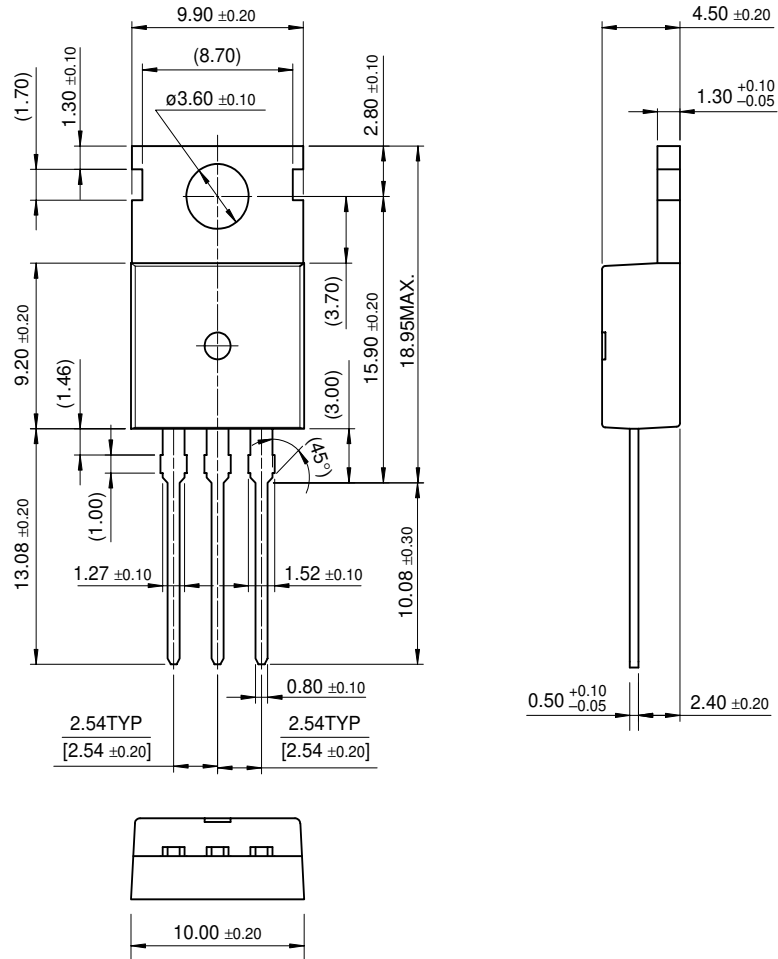


Figure 8. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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CoolFET™	FAST _r ™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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