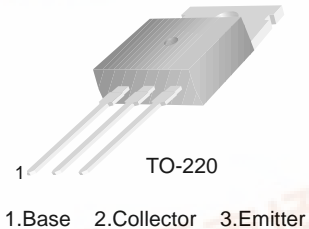


FAIRCHILD
SEMICONDUCTOR™

KSD5018

Built-in Resistor at B-E for Motor Drive

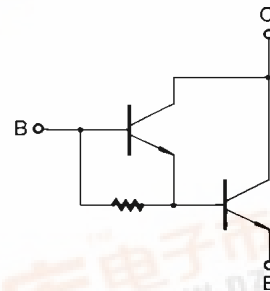
- High Voltage Power Darlington TR



NPN Silicon Darlington Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	600	V
V_{CEO}	Collector- Emitter Voltage	275	V
V_{EBO}	Emitter Base Voltage	10	V
I_C	Collector Current (DC)	4	A
I_{CP}	*Collector Current (Pulse)	6	A
I_B	Base Current	0.5	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	40	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.	Max.	Units
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 1.5\text{A}, I_B = 0.05\text{A}, L = 25\text{mH}$	275		V
BV_{CER}	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}, R_{BE} = 330\Omega$	600		V
I_{CES}	Collector Cut-off Current	$V_{CE} = 500\text{V}$		1	mA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 10\text{V}, I_C = 0$		1	mA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 5\text{mA}$ $I_C = 3\text{A}, I_B = 20\text{mA}$		1.5 1.5	V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 5\text{mA}$		2	V



Typical Characteristics

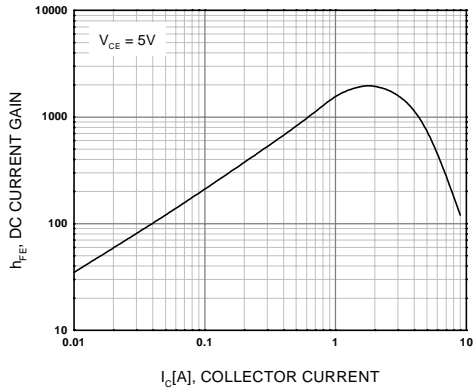


Figure 1. Static Characteristic

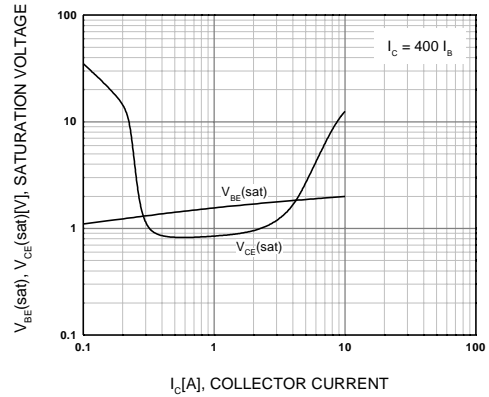


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

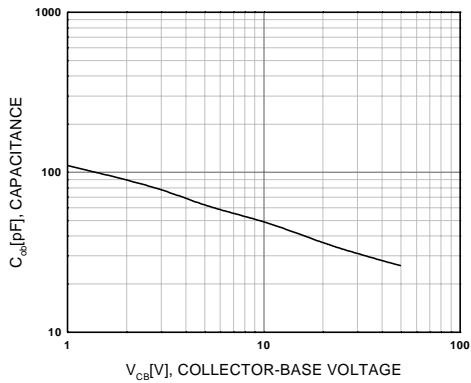


Figure 3. Collector Output Capacitance

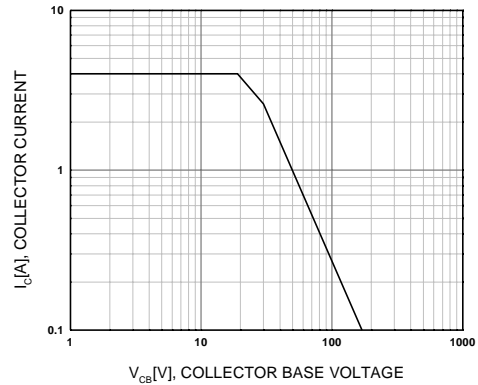


Figure 4. Safe Operating Area

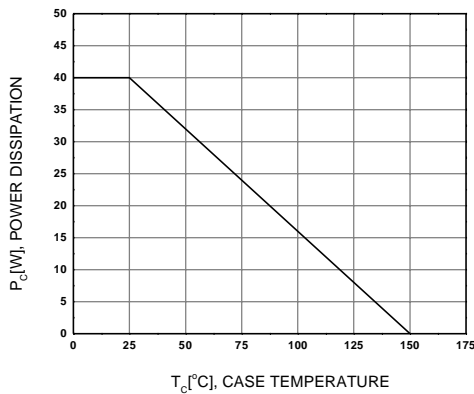
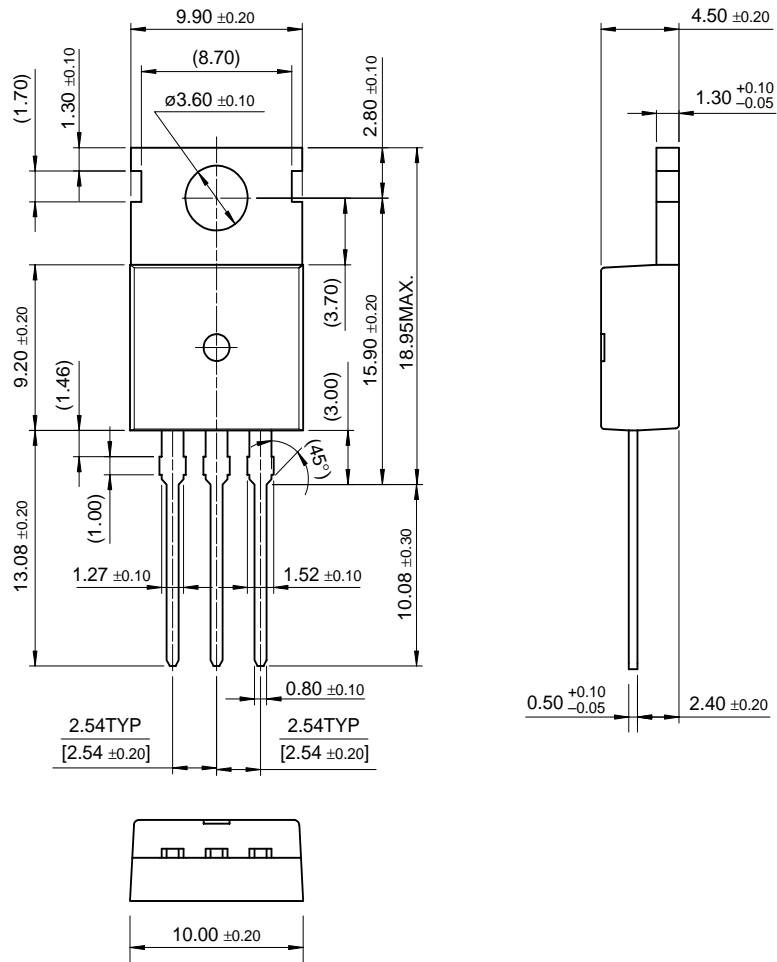


Figure 5. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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CROSSVOLT™	POPT™	UHC™
E ² CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QST™	
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