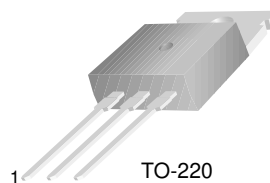


# KSD5018

## Built-in Resistor at B-E for Motor Drive

- High Voltage Power Darlington TR

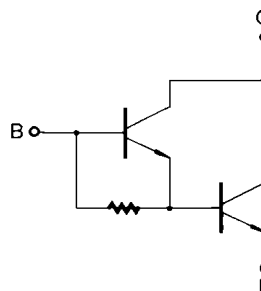


TO-220  
1.Base 2.Collector 3.Emitter

## NPN Silicon Darlington Transistor

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

Symbol	Parameter	Value	Units
$V_{CB0}$	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	$I_C = 2\text{A}, I_B = 5\text{mA}$		1.5	V
		$I_C = 3\text{A}, I_B = 20\text{mA}$		1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 5\text{mA}$		2	V

# Typical Characteristics

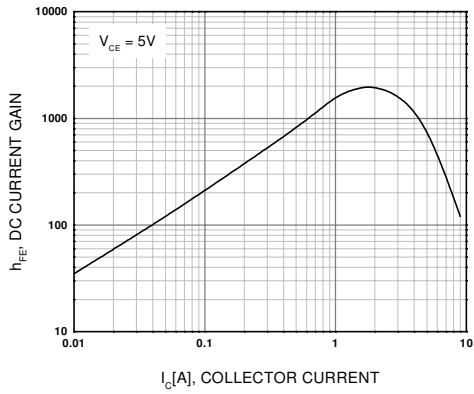


Figure 1. Static Characteristic

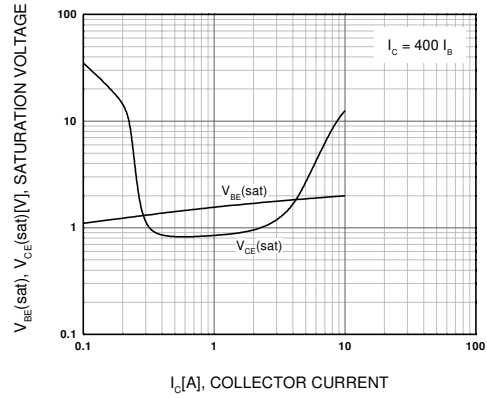


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

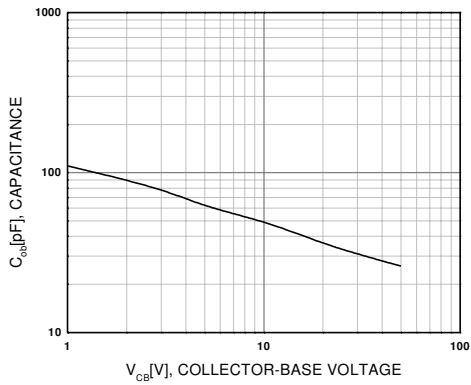


Figure 3. Collector Output Capacitance

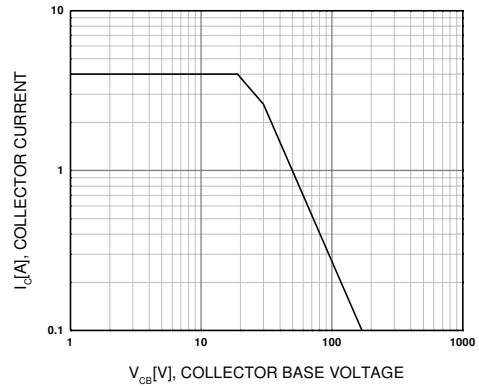


Figure 4. Safe Operating Area

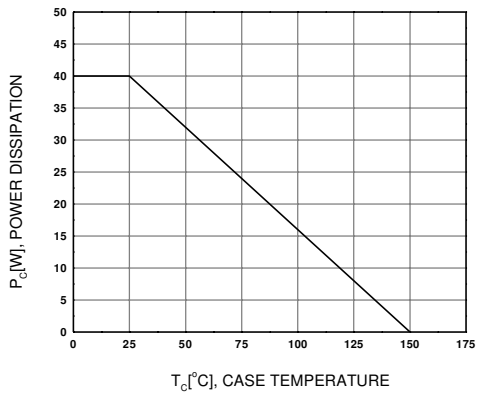
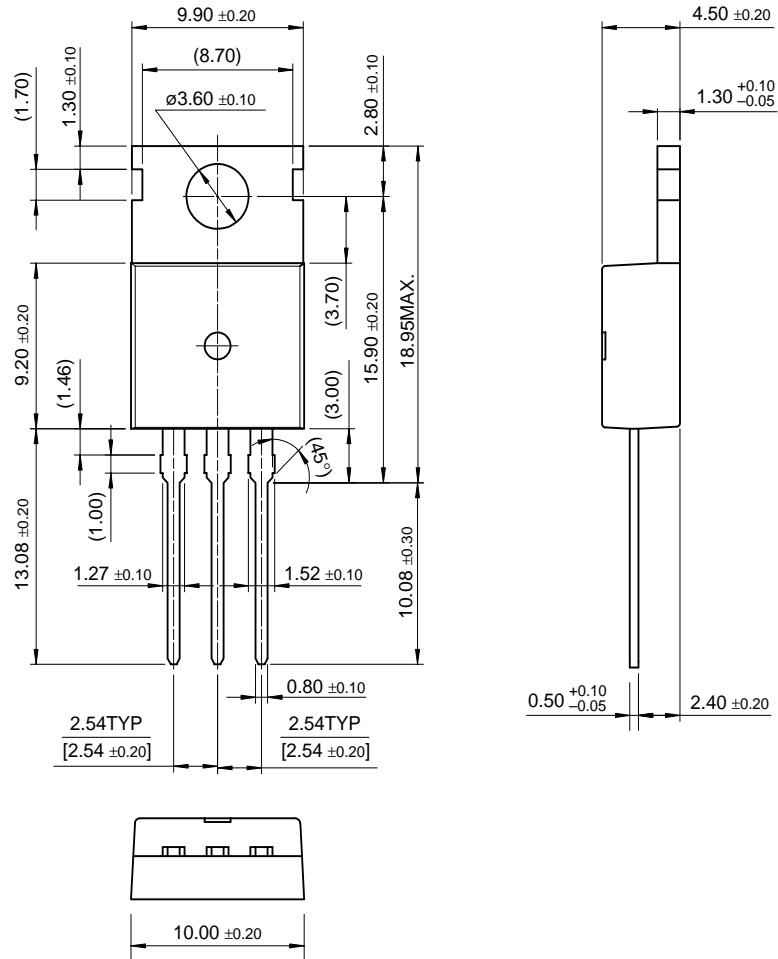


Figure 5. Power Derating

# Package Dimensions

KSD5018

## TO-220



Dimensions in Millimeters

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KSD5018  
NPN Silicon Darlington Transistor

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Features

- High Voltage Power Darlington TR

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Applications

**Built-in Resistor at B-E for Motor Drive**

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
KSD5018TU	Full Production	\$0.54	TO-220	3	RAIL
KSD5018	Full Production	\$0.54	TO-220	3	BULK

\* 1,000 piece Budgetary Pricing

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