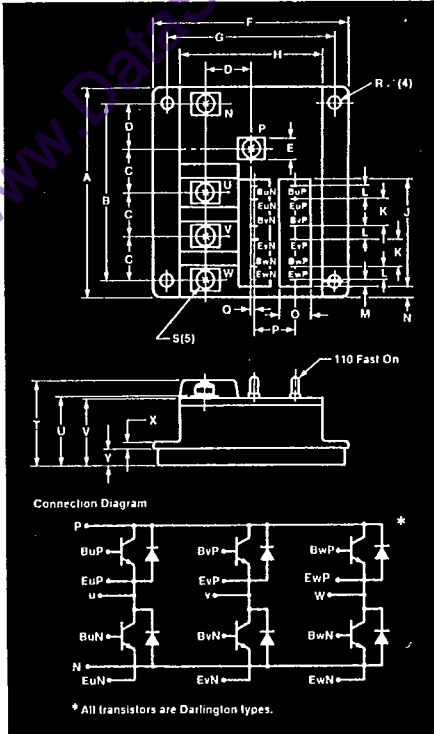


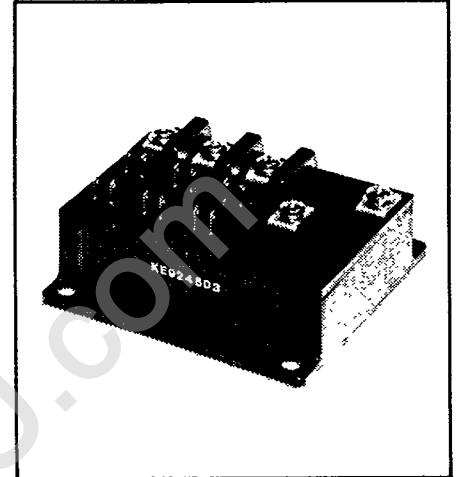
**30 Amperes  
450 Volts**

**Six/Pac Darlington  
TRANSISTOR  
Modules**



**450 Volt Outline Drawing  
KE92450310**

Dim	Inches	Millimeters
A	3.70	94
B	3.150+.020	80±.25
C	.768	19.5
D	.79	20
E	.394	10
F	3.386	86
G	2.913	74
H	2.48	63
J	1.89	48
K	.472	12
L	.236	6
M	.118	3
N	.197	5
O	.551	14
P	.709	18
Q	.059	1.5
R	.217	5.5
S		M4
T	1.50	38
U	1.22	31
V	1.181	30
W	.339	8.6
X	.118	3
Y	.295	7.5



**Features:**

- Isolated Mounting
- Planar Chips
- Discrete Fast Recovery Feed-Back Diode
- High Gain (hFE)
- 110 Fast On Base Connections
- Base-Emitter Speed Up Diode
- Base-Emitter Resistors

**Applications:**

- Inverters
- Switching Power Supplies
- AC Motor Control

**Ordering Information**

Type	V <sub>CE</sub> (SUS) (Volts)	Current Rating 30 Amperes	Gain	Code
KE92	450	4503	100	10

Example: Select the complete ten digit module part number you desire from the shaded area in the table above—i.e. KE92450310 is a 450 Volt, 30 Ampere Darlington Module with a gain of 100 at rated current (30 Amperes).

**Description**

Westinghouse Six/Pac Darlington Transistor Modules are medium power devices which are designed for use in switching applications. The modules are isolated, consisting of six Darlington Transistors with each transistor having a reverse parallel connected high-speed diode. The transistors are connected in a three phase bridge configuration.



# Six/Pac Darlington TRANSISTOR Modules

## 30 Amperes 450 Volts

### Maximum Ratings and Characteristics

$T_J = 25^\circ\text{C}$  unless otherwise specified

	Symbol	KE92450310	Units
Junction temperature	$T_J$	-40 to 150	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-40 to 125	$^\circ\text{C}$
Collector-emitter sustaining voltage	$V_{CE0(SUS)}$	450	Volts
Collector-base voltage	$V_{CBO}$	600	Volts
Emitter-base voltage	$V_{EBO}$	7	Volts
Collector-emitter voltage	$V_{CEV}$	600	Volts
Continuous collector current	$I_C$	30	Amperes
Diode forward current	$I_F$	30	Amperes
Continuous base current	$I_B$	1.8	Amperes
Diode surge current	$I_{FSM}$	300	Amperes
Power dissipation, each transistor	$P_T$	250	Watts
Max. mounting torque M5 mounting screw	—	12	in-lb
M4 terminal screw	—	17	in-lb
Module weight (typical)	—	16	Oz
Module weight (typical)	—	460	Grams
V isolation	$V_{RMS}$	2000	Volts

### Electrical and Mechanical Characteristics

$T_J = 25^\circ\text{C}$  unless otherwise specified

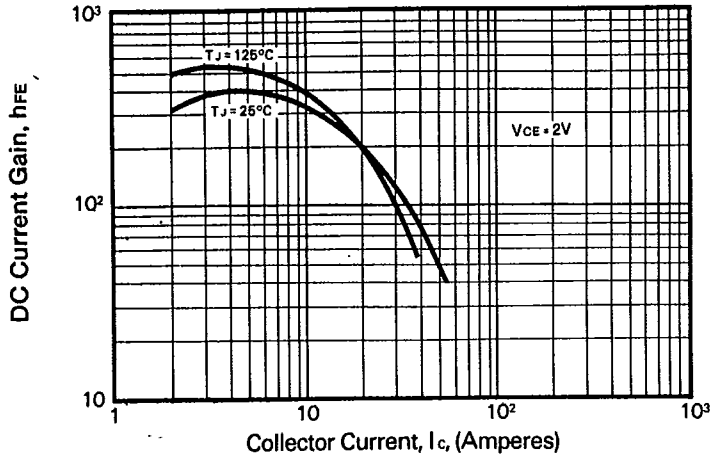
Symbol	Characteristics	Test Conditions	KE92450310			Units
			Min.	Typ.	Max.	
$I_{CEV}$	Collector Cutoff Current	$V_{CE} = 600V, V_{BE} = -2V$			1	mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE} = 600V, V_{BE} = -2V$ $T_C = 125^\circ\text{C}$			5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 7V$			200	mA
$h_{FE}$	DC Current Gain	$I_C = 30A, V_{CE} = 2V$	75			
		$I_C = 30A, V_{CE} = 5V$	100			
$V_{FM}$	Diode Forward Voltage	$I_{FM} = 30A$			1.85	V
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	$I_C = 30A, I_B = 0.4A$			2.0	V
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage	$I_C = 30A, I_B = 0.4A$			2.5	V
$t_{on}$	Turn On	$V_{CC} = 300V$ $I_C = 30A$ $I_{B1} = .5A, I_{B2} = .5A$			1.5	$\mu\text{s}$
$t_s$	Storage Time				12	$\mu\text{s}$
$t_f$	Fall Time				3.0	$\mu\text{s}$
$R_{\theta CS}$	Thermal Resistance, Case to Sink				0.15	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	Transistor Part			0.5	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	Diode Part			2.0	$^\circ\text{C}/\text{W}$

**30 Amperes  
450 Volts**

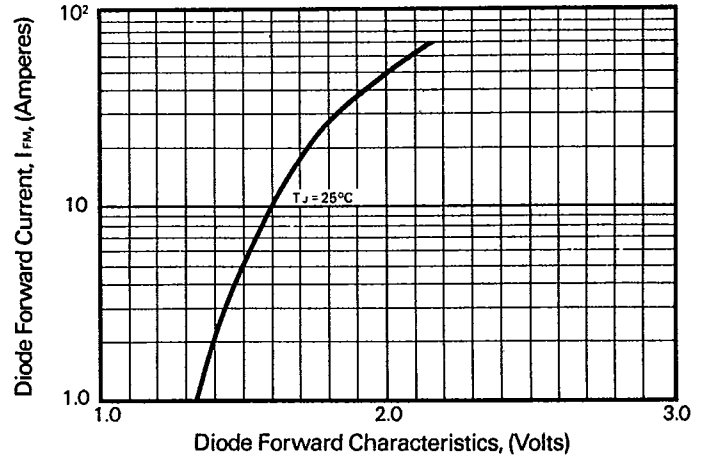
**Six/Pac Darlington  
TRANSISTOR  
Modules**



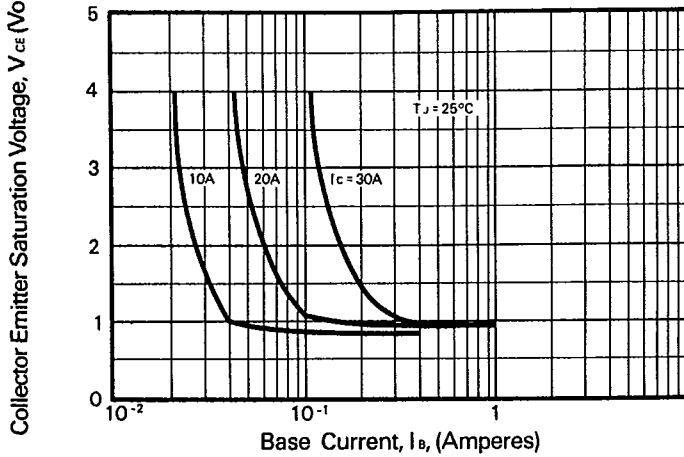
**DC Current Gain (Typical)  
KE92450310**



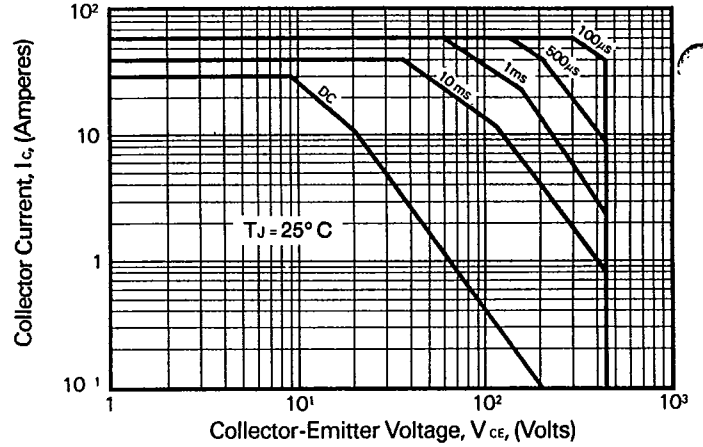
**Diode Characteristics  
KE92450310**



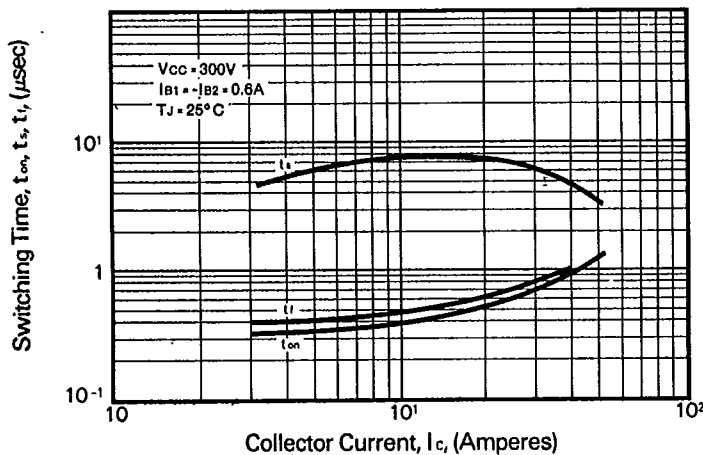
**Collector-Emitter Saturation Voltage (Typical)  
KE92450310**



**Forward Bias Safe Operating Area, (S.O.A.)  
KE92450310**



**Switching Characteristics (Typical)  
KE92450310**



**Reverse Bias Safe Operating Area, (R.B.S.O.A.)  
KE92450310**

