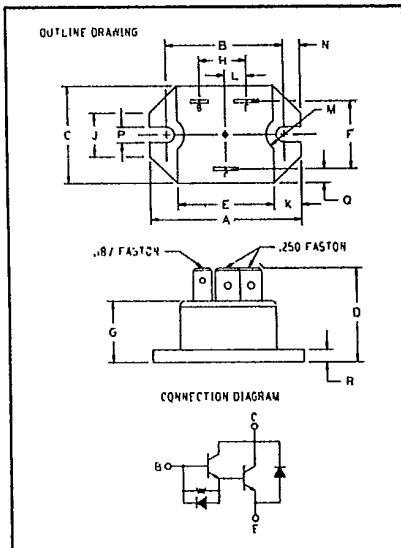


POWEREX**D66GV**

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

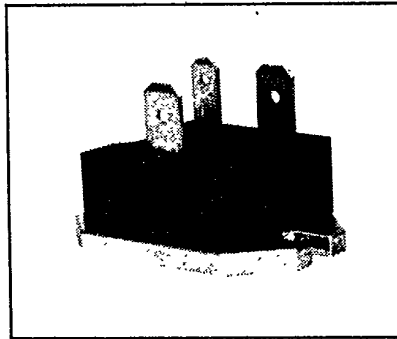
Fast Switching Single Darlington Transistor Module

50 Amperes
500-600-700 Volts



500-600-700 Volt D66GV
Outline Drawing

Dimension	Inches	Millimeters
A	1.52	38.6
B	1.186 ± .006	30 ± 0.15
C	1.000 ± .015	25.4 ± 0.4
D	.97	24.6
E	.96	24.4
F	.694 ± .010	17.6 ± 0.25
G	.625 ± .020	15.9 ± 0.5
H	.474 ± .010	12 ± 0.25
J	.450	11.4
K	.275	7
L	.220 ± .010	5.6 ± 0.25
M	.180 R	4.6 R
N	.167 ± .010	4.2 ± 0.25
P	.160 ± .010	4.1 ± 0.25
Q	.15	3.8
R	.126 ± .006	3.2 ± 0.15



D66GV
Fast Switching Single Darlington
Transistor Module
50 Amperes/500-600-700 Volts

Description

Powerex Fast Switching Single Darlington Transistor Modules are designed for use in switching applications. The modules are isolated consisting of one Darlington Transistor with a discrete reverse parallel connected high speed free-wheel diode.

Features:

- Isolated Mounting
- High Gain (h_{fe})
- Quick Connect Terminals
- Base Emitter Speed-up Diode

Applications:

- UPS Inverters
- DC Motor Control
- Switching Power Supplies
- AC Motor Control

Ordering Information

Example: Select the complete six digit module part number you desire from the table - i.e. D66GV7 is a 700 Volt, 50 Ampere Fast Switching Single Darlington Module with speed-up diode and discrete fast recovery free wheel diode.

Type	V _{CEV} Volts (x100)	Current Rating Amperes (50)
D66GV	5	50
D66GV	6	50
D66GV	7	50



Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

D66GV

Fast Switching Single Darlington Transistor Module
50 Amperes/500-600-700 Volts

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

	Symbol	D66GV	Units
Junction Temperature	T_J	-40 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to 150	$^\circ\text{C}$
Collector-Emitter Sustaining Voltage D66GV5	$V_{CEO(SUS)}$	400	Volts
Collector-Emitter Voltage $V_{BE} = -1.5\text{V}$ D66GV5	V_{CEV}	500	Volts
Collector-Emitter Sustaining Voltage D66GV6	$V_{CEO(SUS)}$	450	Volts
Collector-Emitter Voltage $V_{BE} = -1.5\text{V}$ D66GV6	V_{CEV}	600	Volts
Collector-Emitter Sustaining Voltage D66GV7	$V_{CEO(SUS)}$	500	Volts
Collector-Emitter Voltage $V_{BE} = -1.5\text{V}$ D66GV7	V_{CEV}	700	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Continuous Collector Current	I_C	50	Amperes
Peak (Repetitive) Collector Current	I_{CM}	75	Amperes
Peak (Non-repetitive) Collector Current	I_{CSM}	125	Amperes
Diode Forward Current	I_{FM}	50	Amperes
Continuous Base Current	I_B	10	Amperes
Peak (Non-repetitive) Base Current	I_{BM}	20	Amperes
Power Dissipation	P_T	125	Watts
Max. Mounting Torque (M3) Mounting Screws	—	8	in.-lb.
V isolation	V_{RMS}	2500	Volts

POWEREX

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

D66GV

Fast Switching Single Darlington Transistor Module
50 Amperes/500-600-700 Volts

Electrical and Mechanical Characteristics $T_j = 25^\circ\text{C}$ unless otherwise specified

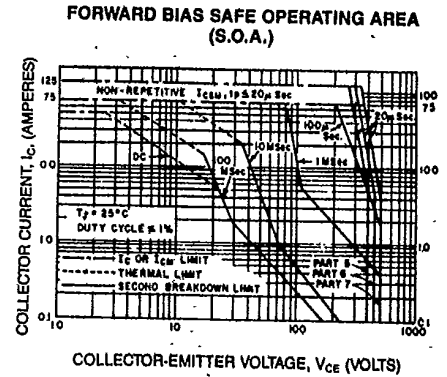
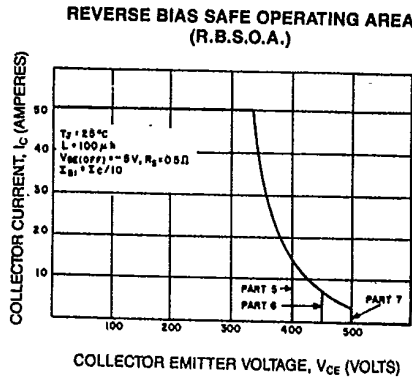
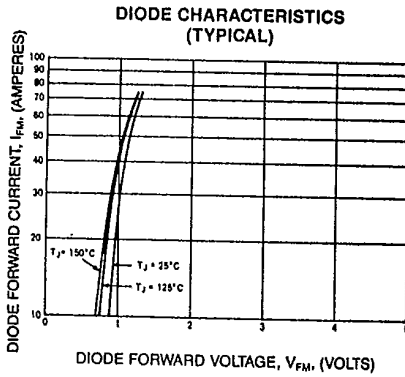
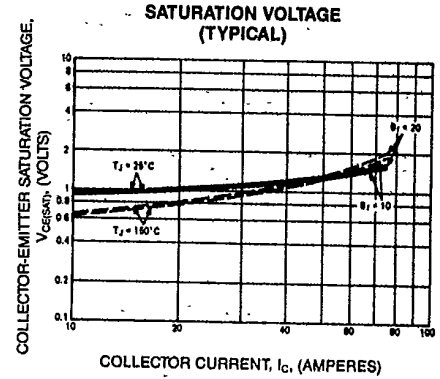
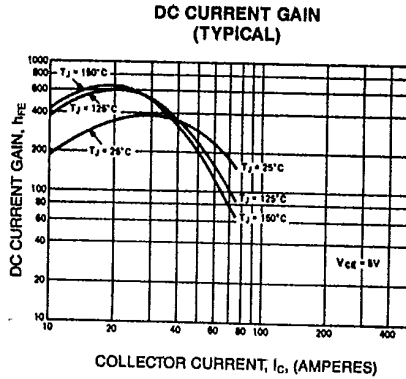
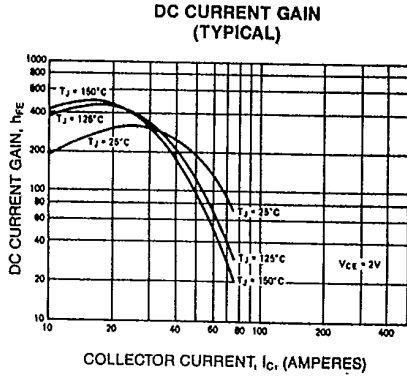
Characteristics	Symbol	Test Conditions	Min.	D66GV Typ.	Max.	Units
Collector Cutoff Current	I_{CEV}	$V_{CE} = V_{CEV}$ (rated), $V_{BE} = -1.5V$	—	—	1	mA
Collector Cutoff Current	I_{CEV}	$V_{CE} = V_{CEV}$ (rated), $V_{BE} = -1.5V$ $T_C = 150^\circ\text{C}$	—	—	2.5	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V$	—	—	10	mA
DC Current Gain	h_{FE}	$I_C = 75A, V_{CE} = 5.0V$	25	150	—	—
		$I_C = 50A, V_{CE} = 5.0V$	50	300	—	—
		$I_C = 20A, V_{CE} = 5.0V$	100	350	—	—
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 75A, I_B = 5.0A$	—	1.6	3.0	V
		$I_C = 50A, I_B = 4.0A$	—	1.3	2.0	V
		$I_C = 20A, I_B = 2.0A$	—	1.0	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 75A, I_B = 5.0A$	—	2.2	3.5	V
		$I_C = 50A, I_B = 4.0A$	—	2.0	3.0	V
		$I_C = 20A, I_B = 2.0A$	—	—	2.5	V
Delay Time*	t_d	$V_{CC} = 250V$	—	0.1	0.5	μs
Rise Time*	t_r	$I_C = 50A$	—	0.65	1.0	μs
Storage Time*	t_s	$I_{B1} = 2.5A, -I_{B2} = 5A$	—	2.5	3.0	μs
Fall Time*	t_f	$t_P = 50 \mu\text{sec}$	—	0.6	0.75	μs
Diode Forward Voltage	V_{FM}	$I_{FM} = 25A$	—	1.3	2.0	V
		$I_{FM} = 25A, T_j = 150^\circ\text{C}$	—	1.3	2.50	V
Reverse Recovery Time	t_{rr}	$I_{FM} = 50A, di/dt = 100A/\mu\text{sec}$ $V_{BE} = -1.5V$	—	0.5	1.0	μs
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Transistor Part	—	—	1.0	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Diode Part	—	—	2.5	$^\circ\text{C/W}$

*Resistive Load



Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

D66GV
Fast Switching Single Darlington Transistor Module
50 Amperes/500-600-700 Volts



Switching Time Test Circuit

