

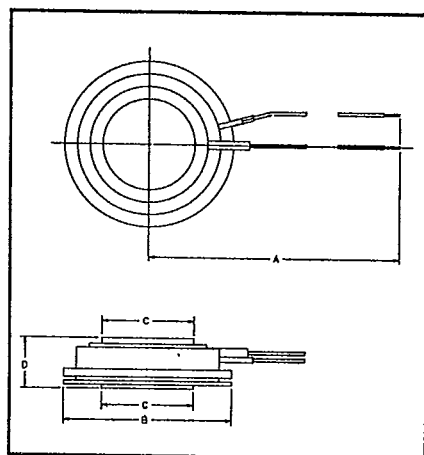
POWEREX

T-33-15

DM2T5040

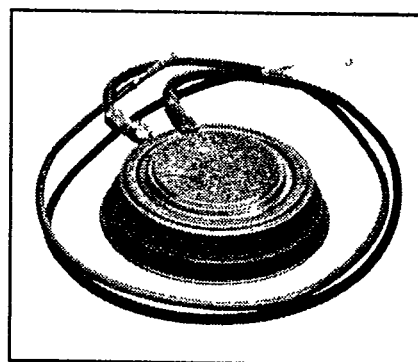
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

High Pow-R-Disc™ Transistor 400 Amperes/500 Volts



**DM2T5040, 500 Volts
Outline Drawing**

Dimension	Inches	Millimeters
A	13.780	350
B	2.205 Dia.	56 Dia.
C	1.496 Dia.	38 Dia.
D	.650	16.5



**DM2T5040
High Pow-R-Disc™ Transistor
400 Amperes/500 Volts**

Features:

- ☐ High h_{FE}
- ☐ Hermetic Case
- ☐ Low $V_{CE(sat)}$
- ☐ Fast Switching

Applications:

- ☐ Military Hi-Rel
- ☐ High Frequency Inverters
- ☐ AC & DC Motor Control
- ☐ Switching Power Supplies

Ordering Information

Select the complete eight digit part number for the rating you desire from the table—i.e. DM2T5040 is a 500 Volt, 400 Ampere Single hermetic Pow-R-Disc™ Transistor.

Type	$V_{CE(sat)}$ Volts ($\times 10$)	Current Rating Amperes ($\times 10$)
DM2T	50	40



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

DM2T5040
High Pow-R-Disc™ Transistor
 400 Amperes/500 Volts

Maximum Ratings

Characteristics	Symbol	DM2T5040	Units
Junction Temperature	T_J	-40 to 150	°C
Storage Temperature	T_{STG}	-40 to 200	°C
Collector-Emitter Sustaining Voltage $R=10\Omega$, $I_C=0.5A$	$V_{CE(RSUS)}$	500	Volts
Collector-Base Voltage	V_{CBO}	525	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage $V_{BE} = -1.5V$	V_{CEV}	525	Volts
Continuous Collector Current	I_C	400	Amperes
Pulsed Collector Current $t_w \leq 1ms$	I_C	800	Amperes
Continuous Base Current	I_B	100	Amperes
Power Dissipation	P_T	2500	Watts
Mounting Force	—	2200	lb.
Mounting Force	—	9.8	kN
Typical Weight	—	300	g

Electrical and Mechanical Characteristics $T_C, T_J = 25^\circ C$ unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	DM2T5040 Typ.	Max.	Units
Collector-Emitter Cutoff Current	I_{CEV}	$V_{CE} = 525V, V_{BE} = -1.5V$	—	—	10	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7V$	—	—	140	mA
DC Current Gain	h_{FE}	$I_C = 400A, V_{CE} = 2.5V$	10	—	—	—
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 400A, I_B = 56A$	—	—	1.5	Volts
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 400A, I_B = 56A$	—	—	2.0	Volts
Resistive Turn-On	t_{on}	$V_{CC} = 250V, I_C = 200A$	—	—	2.0	μs
Load Storage Time	t_s	$I_{B1} = -I_{B2} = 20A$	—	—	10	μs
Switch Times Fall Time	t_f		—	—	1	μs
Thermal Resistance, Case to Sink Lubricated	$R_{\theta CS}$	—	—	—	—	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	—	—	—	.05	°C/W



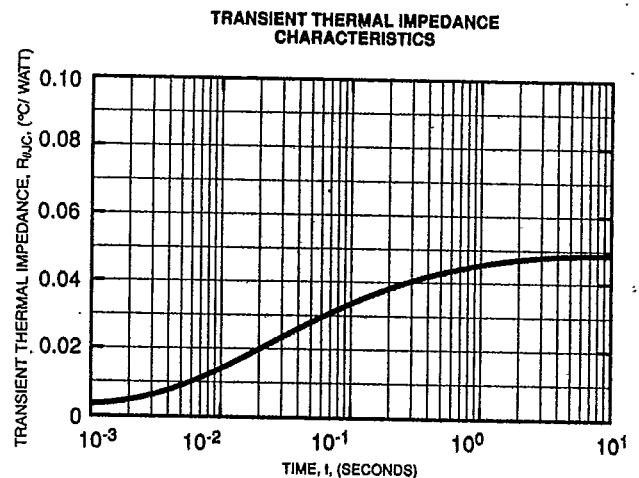
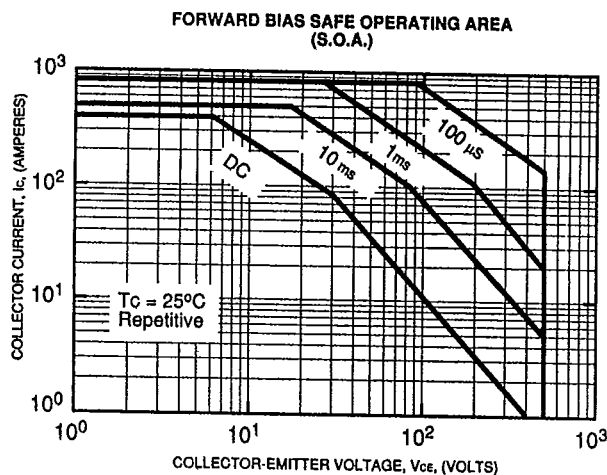
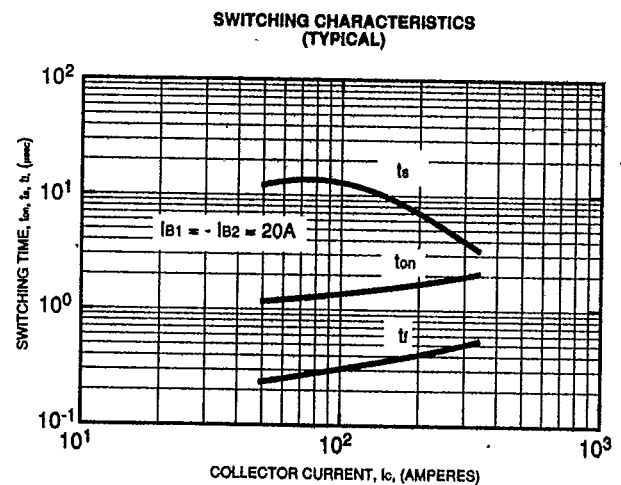
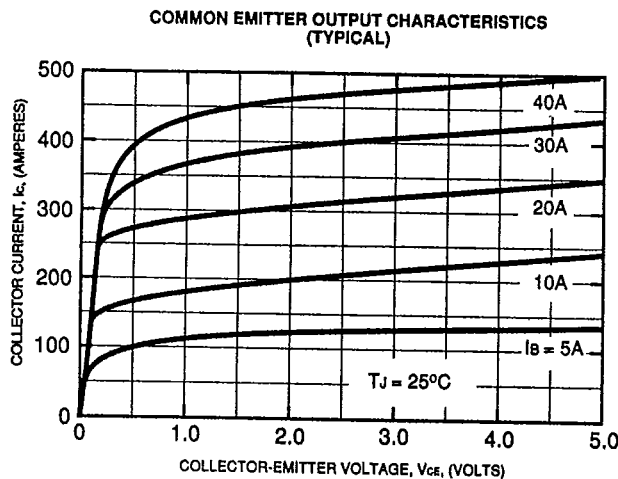
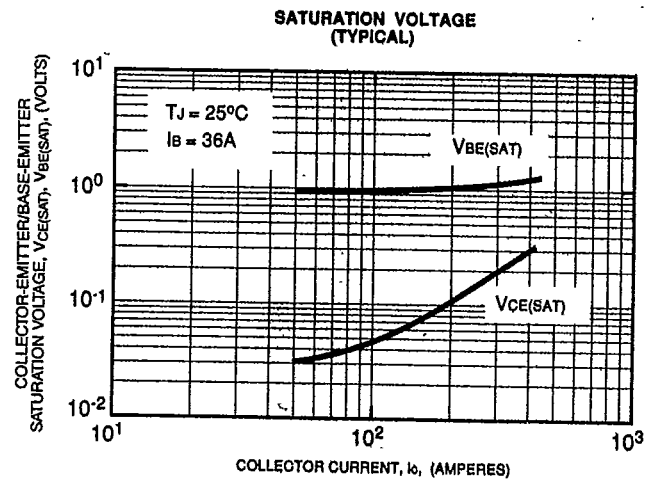
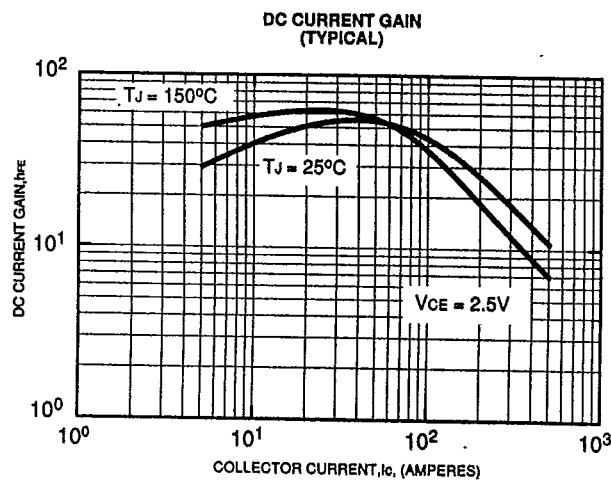
T-33-15

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

DM2T5040

High Pow-R-Disc™ Transistor

400 Amperes/500 Volts





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

DM2T5040

High Pow-R-Disc™ Transistor

400 Amperes/500 Volts

FORWARD BIAS SAFE OPERATING AREA
(S.O.A.) NON-REPETITIVE

