

FEATURES

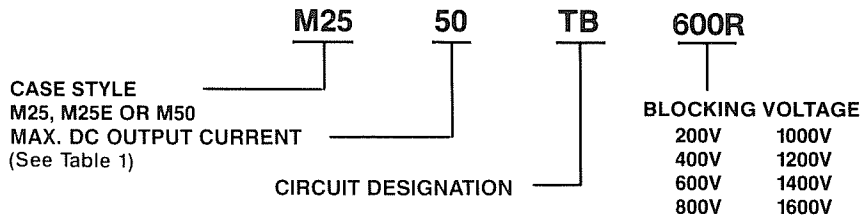
- Seven Standard Diode Circuits are available — Single-Phase Bridge; 3-Phase Bridge; Diode Doubler; Center Tap Common Cathode; Center Tap Common Anode; 3-Phase Common Cathode Half-Wave Bridge and 3-Phase Common Anode Half-Wave Bridge
- SPC's unitized power hybrid technology provides highly efficient thermal management for greatly expanded cyclic life
- High terminal-to-base isolation of 2500VAC RMS
- Insulated terminal barrier available, M25E
- UL Component Recognition

PARAMETER	SYM.	UNITS	SPECIFICATION LIMITS			CONDITIONS
DC Output Current, 1 ϕ (Max.)	I_o	A	35	60	100	$T_c = 100^\circ\text{C}$, Max. (Table 1)
DC Output Current, 3 ϕ (Max.)	I_o	A	50	60	100	$T_c = 100^\circ\text{C}$, Max. (Table 1)
One-Cycle Surge Current (Peak)	I_{TSM}	A	300	1000	2000	60Hz Sine Wave, Non-Repetitive (Fig. 2)
I^2t for Fusing (Max.)	I^2t	A ² S	375	4150	16,700	60Hz Sine Wave
Reverse Blocking Voltage (Max.)	V_{RRM}	V	200-1200	200-1600		$T_J = 150^\circ\text{C}$
Leakage Current (Max.)	I_{RRM}	mA	3	5		$T_J = 150^\circ\text{C}$ @ V_{RRM}
Forward Voltage Drop (Max.)	V_F	V	1.8 @ 100A	1.25 @ 100A	1.4 @ 200A	$T_J = 25^\circ\text{C}$ (Fig. 3)
Isolation Voltage (Min.)	V_{ISOL}	Vrms	2500			Any Terminal-to-Base
Junction Operating Temp. (Range)	T_J	$^\circ\text{C}$	-40 to +150			
Storage Temperature (Range)	T_{STG}	$^\circ\text{C}$	-40 to +150			
Thermal Resistance (Case-to-Sink)	$R\theta_{C-S}$	$^\circ\text{C}/\text{W}$	0.1	0.07		With Thermal Grease
Thermal Resistance (Junction-to-Case)	$R\theta_{J-C}$	$^\circ\text{C}/\text{W}$	1.8	1.25	1.0	Per Device (Table 1) See page 55 for terminal derating curves
Case Style			M25/M25E-R		M50	See pages 53 and 54 for circuit configurations and outline dimensions

CIRCUIT TYPE	$R\theta_{J-C}$ ($^\circ\text{C}/\text{W}$)			MAX. DC OUTPUT CURRENT (A)		
	M25, M25E SERIES	M50 SERIES		M25, M25E SERIES	M50 SERIES	
SB-R	0.45	0.31	0.25	35	60	100
TB	0.30	0.21	0.17	50	60	100
DD*	0.90	0.62	0.50	20	35	50
CC	0.90	0.62	0.50	35	60	100
CA	0.90	0.62	0.50	35	60	100
THC	0.60	0.42	0.33	50	60	100
THA	0.60	0.42	0.33	50	60	100

NOTE: *Average current at 180 $^\circ$

PART NUMBER DESIGNATION CODE

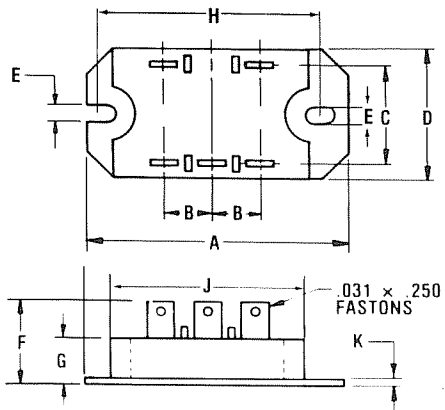


CIRCUIT CONFIGURATIONS (See page 55 for characteristic curves)

CIRCUIT TYPE	CIRCUIT DESIGNATION	CIRCUIT SCHEMATICS	CASE M25/M25E TERMINAL LOCATIONS	CASE M50 TERMINAL LOCATIONS
SINGLE-PHASE BRIDGE	SB-R			
THREE-PHASE BRIDGE (see note)	TB			
DIODE DOUBLER	DD			
CENTER TAP COMMON CATHODE	CC			
CENTER TAP COMMON ANODE	CA			
THREE PHASE COMMON CATHODE HALF WAVE BRIDGE	THC			
THREE PHASE COMMON ANODE HALF WAVE BRIDGE	THA			

NOTE: Add "R" at end of part number to reverse polarity of output terminals.

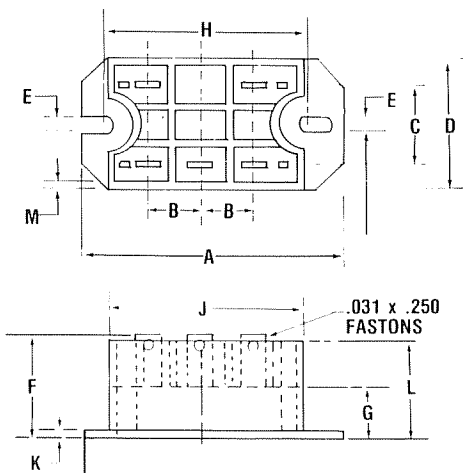
M25 OUTLINE/MOUNTING DIMENSIONS (See page 52 & 53 for product data)



DIM.	INCHES		MILLIMETERS	
	MAX.	MIN.	MAX.	MIN.
A	2.510	2.490	63.80	63.20
B	0.510	0.490	13.00	12.40
C	0.880	0.860	22.40	21.80
D	1.255	1.245	31.90	31.60
E	0.205	0.195	5.20	4.95
F	1.010	0.940	25.60	23.90
G	0.590	0.560	14.99	14.22
H	1.970	1.940	50.00	49.30
J	1.930	1.900	49.00	48.20
K	0.067	0.057	1.70	1.44

MOUNTING TORQUE REQUIRED:
 (A) Mounting Screws 20 in.-lbs.

M25E OUTLINE/MOUNTING DIMENSIONS

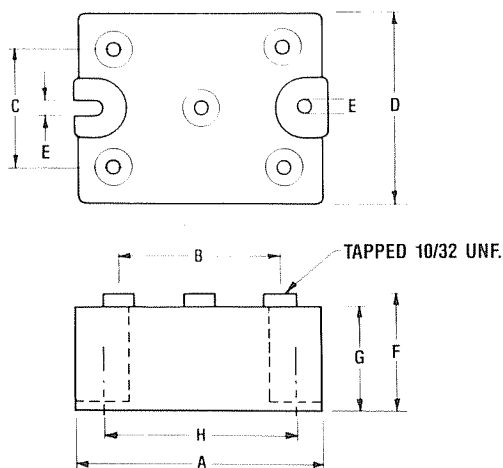


Case M25E, which features an insulated terminal barrier, can be substituted for case M25 as all electrical specifications are identical.

DIM.	INCHES		MILLIMETERS	
	MAX.	MIN.	MAX.	MIN.
A	2.510	2.490	63.80	63.20
B	0.510	0.490	13.00	12.40
C	0.880	0.860	22.40	21.80
D	1.255	1.245	31.90	31.60
E	0.205	0.195	5.20	4.95
F	1.010	0.940	25.60	23.90
G	0.590	0.560	14.99	14.22
H	1.970	1.940	50.00	49.30
J	1.930	1.900	49.00	48.20
K	0.067	0.057	1.70	1.44
L	0.940	0.860	23.88	21.85
M	0.052	0.048	1.32	1.22

MOUNTING TORQUE REQUIRED:
 (A) Mounting Screws 20 in.-lbs.

M50 OUTLINE/MOUNTING DIMENSIONS



DIM.	INCHES		MILLIMETERS	
	MAX.	MIN.	MAX.	MIN.
A	2.300	2.240	58.4	56.9
B	1.645	1.605	41.8	40.7
C	1.085	1.055	27.6	26.8
D	1.800	1.740	45.7	44.2
E	0.182	0.172	4.6	4.4
F	1.140	1.100	29.0	27.9
G	1.015	0.985	25.8	25.0
H	1.890	1.870	48.0	47.5

MOUNTING TORQUE REQUIRED:
 (A) Mounting Screws 20 in.-lbs.
 (B) Terminal Studs (Screws Supplied, Unmounted) 30 in.-lbs.