

Rectifiers

(15 – 25 Amps)

General Description

Teccor manufactures 15 to 25 ampere (RMS) rectifiers with voltages rated from 50 to 800 volts. Due to the electrically-isolated TO-220 package, these rectifiers may be used in common anode or common cathode circuits using only one part type, thereby simplifying stock requirements.

Teccor's silicon rectifiers feature glass-passivated junctions to ensure long term reliability and stability. In addition, glass offers a rugged, reliable barrier against junction contamination.

Features

- Electrically-isolated packages
- High voltage capabilities (50 to 800 Volts)
- High surge capabilities (up to 350 Amps)
- Glass-passivated junctions

Electrical Specifications

Type	Part Number	V_{RRM} Peak Repetitive Reverse Voltage	V_R DC Blocking Voltage	$I_{F(AV)}$ Average Forward Current (1)	$I_{F(RMS)}$ RMS Forward Current	I_{FSM} Peak One Cycle Surge Current (2)		I_{RM} Peak Reverse Current (3)			V_{FM} Peak Forward Voltage at Rated Average Forward Current $T_C=25^\circ\text{C}$	I^2t RMS Surge (Non-Repetitive) Forward Current For 8.3ms for Fusing	$R_{\theta JC}$ Thermal Resistance (Steady State) Junction to Case
	Isolated												
	TO-220AB												
	See "Package Dimensions" section for variations.	Volts	Volts	Amps	Amps	60 Hz	50Hz	$T_C = 25^\circ\text{C}$	$T_C = 100^\circ\text{C}$	$T_C = 125^\circ\text{C}$	Volts	Amps ² Sec	$^\circ\text{C/W}$
		MIN	MIN	MAX	MAX			MAX			MAX		TYP
15 Amps	D0515L	50	50	9.5	15	225	188	0.1	0.5	1.0	1.6	210	2.85
	D2015L	200	200	9.5	15	225	188	0.1	0.5	1.0	1.6	210	2.85
	D4015L	400	400	9.5	15	225	188	0.1	0.5	1.0	1.6	210	2.85
	D6015L	600	600	9.5	15	225	188	0.1	0.5	1.0	1.6	210	2.58
	D8015L	800	800	9.5	15	225	188	0.1	0.5	1.0	1.6	210	2.85
20 Amps	D0520L	50	50	12.7	20	300	255	0.1	0.5	1.0	1.6	374	2.5
	D2020L	200	200	12.7	20	300	255	0.1	0.5	1.0	1.6	374	2.5
	D4020L	400	400	12.7	20	300	255	0.1	0.5	1.0	1.6	374	2.5
	D6020L	600	600	12.7	20	300	255	0.1	0.5	1.0	1.6	374	2.5
	D8020L	800	800	12.7	20	300	255	0.1	0.5	1.0	1.6	374	2.5
25 Amps	D0525L	50	50	15.9	25	350	300	0.1	0.5	1.0	1.6	508	2.7
	D2025L	200	200	15.9	25	350	300	0.1	0.5	1.0	1.6	508	2.7
	D4025L	400	400	15.9	25	350	300	0.1	0.5	1.0	1.6	508	2.7
	D6025L	600	600	15.9	25	350	300	0.1	0.5	1.0	1.6	508	2.7
	D8025L	800	800	15.9	25	350	300	0.1	0.5	1.0	1.6	508	2.7

GENERAL NOTES

- Operating temperature range (T_J) is -40°C to $+125^\circ\text{C}$.
- Storage temperature range (T_S) is -40°C to $+125^\circ\text{C}$.
- Lead solder temperature is a maximum of 230°C for 10 seconds maximum at a minimum of $1/16"$ (1.59mm) from case.
- The case temperature (T_C) is measured as shown on dimensional outline drawings. See "Package Dimensions" section of this catalog.
- Teccor's electrically-isolated TO-220 devices will withstand a high potential test of 2500VAC RMS from leads to mounting tab over the operating temperature range.
- Typical Reverse Recovery Time (t_{rr}) is $4\mu\text{sec}$ (Test conditions = 0.9A forward current and 1.5A reverse current).

NOTES TO ELECTRICAL SPECIFICATIONS

- See Figure 7.2 for current rating at specified case temperature.
- For more than one full cycle rating, see Figure 7.4.
- $T_C = T_J$ for test conditions.

ELECTRICAL ISOLATION FROM LEADS TO MOUNTING TAB**	
VAC(RMS)	ISOLATED TO-220AB
2500	Standard
4000	Optional*

* For 4000 V isolation use "V" suffix.

** U.L. Recognized File #E71639

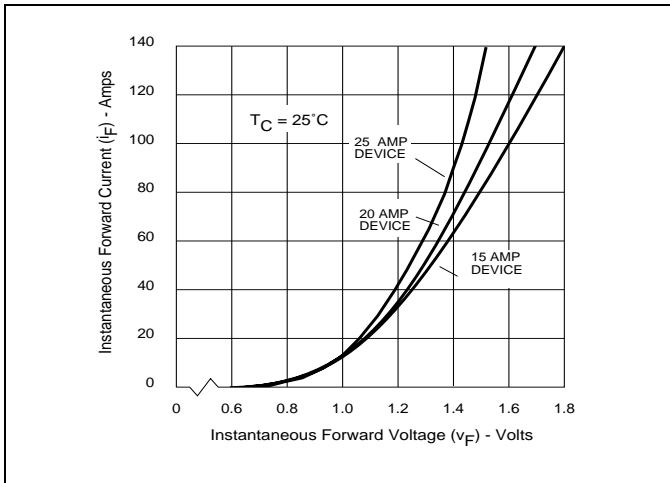


Figure 7.1 Instantaneous Forward Current vs Forward Voltage (Typical)

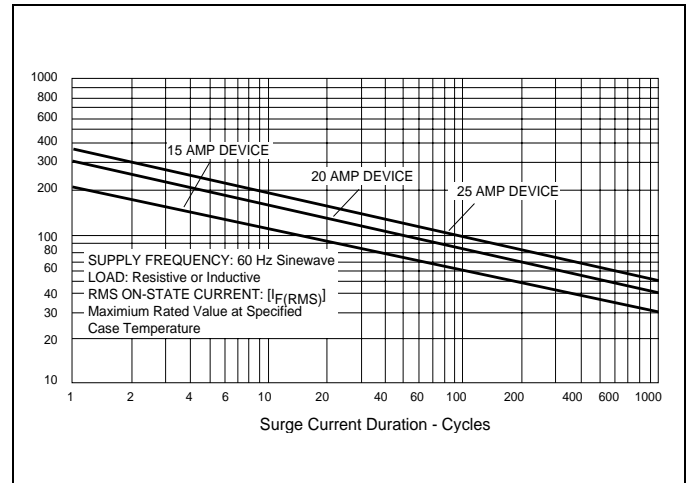


Figure 7.4 Peak Surge Forward Current vs Surge Current Duration

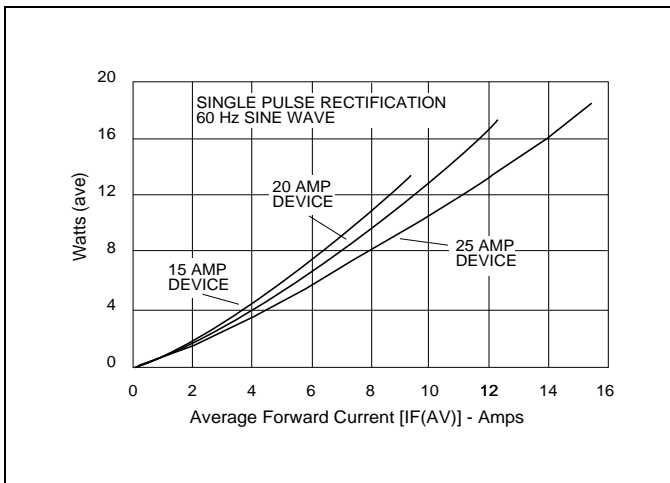


Figure 7.2 Forward Power Dissipation (Typical)

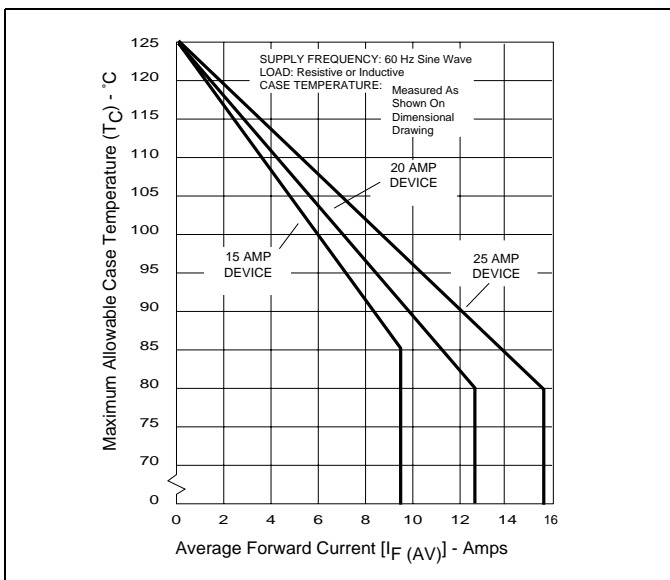


Figure 7.3 Maximum Allowable Case Temperature vs Average Forward Current

Notes
