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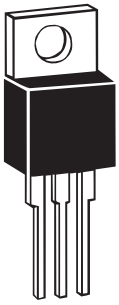
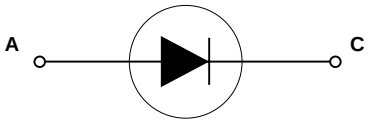


TO-220
Isolated

E7



Rectifiers

(15 A to 25 A)

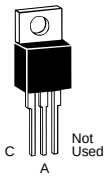
General Description

Teccor manufactures 15 A rms to 25 A rms rectifiers with voltages rated from 200 V to 1000 V. 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

- **RoHS Compliant**
- **Electrically-isolated packages**
- **High voltage capabilities — 200 V to 1000 V**
- **High surge capabilities — up to 350 A**
- **Glass-passivated junctions**

Type	Part Number Isolated	V_{RRM}	V_R	$I_{F(AV)}$	$I_{F(RMS)}$	I_{FSM}	I_{RM}			V_{FM}	I^2t	$R_{\theta JC}$
	 TO-220			(1)		(2)	(3)					
		Volts	Volts	Amps	Amps	Amps 60/50 Hz	mA T_C = 25 °C	T_C = 100 °C	T_C = 125 °C	Volts T_C=25 °C	$Amps^2Sec$	°C/W
	See “Package Dimensions” section for variations. (4)	MIN	MIN	MAX	MAX		MAX			MAX		TYP
15 A	**D2015L**	**200**	**200**	**9.5**	**15**	**225/188**	**0.1**	**0.5**	**1**	**1.6**	**210**	**2.85**
	D4015L	**400**	**400**	**9.5**	**15**	**225/188**	**0.1**	**0.5**	**1**	**1.6**	**210**	**2.85**
	D6015L	**600**	**600**	**9.5**	**15**	**225/188**	**0.1**	**0.5**	**1**	**1.6**	**210**	**2.85**
	D8015L	**800**	**800**	**9.5**	**15**	**225/188**	**0.1**	**0.5**	**1**	**1.6**	**210**	**2.85**
	DK015L	**1000**	**1000**	**9.5**	**15**	**225/188**	**0.1**	**3**		**1.6**	**210**	**2.85**
20 A	**D2020L**	**200**	**200**	**12.7**	**20**	**300/255**	**0.1**	**0.5**	**1**	**1.6**	**374**	**2.5**
	D4020L	**400**	**400**	**12.7**	**20**	**300/255**	**0.1**	**0.5**	**1**	**1.6**	**374**	**2.5**
	D6020L	**600**	**600**	**12.7**	**20**	**300/255**	**0.1**	**0.5**	**1**	**1.6**	**374**	**2.5**
	D8020L	**800**	**800**	**12.7**	**20**	**300/255**	**0.1**	**0.5**	**1**	**1.6**	**374**	**2.5**
	DK020L	**1000**	**1000**	**12.7**	**20**	**300/255**	**0.1**	**3**		**1.6**	**374**	**2.5**
25 A	**D2025L**	**200**	**200**	**15.9**	**25**	**350/300**	**0.1**	**0.5**	**1**	**1.6**	**508**	**2.7**
	D4025L	**400**	**400**	**15.9**	**25**	**350/300**	**0.1**	**0.5**	**1**	**1.6**	**508**	**2.7**
	D6025L	**600**	**600**	**15.9**	**25**	**350/300**	**0.1**	**0.5**	**1**	**1.6**	**508**	**2.7**
	D8025L	**800**	**800**	**15.9**	**25**	**350/300**	**0.1**	**0.5**	**1**	**1.6**	**508**	**2.7**
	DK025L	**1000**	**1000**	**15.9**	**25**	**350/300**	**0.1**	**3**		**1.6**	**508**	**2.7**

Test Conditions

I^2t — RMS surge (non-repetitive) forward current for 8.3 ms for fusing

$I_{F(AV)}$ — Average forward current

$I_{F(RMS)}$ — RMS forward current

I_{FSM} — Peak one-cycle surge current

I_{RM} — Peak reverse current

$R_{\theta JC}$ — Thermal resistance (steady state) junction to case

V_{FM} — Peak forward voltage at rated average forward current

V_R — DC blocking voltage

V_{RRM} — Peak repetitive reverse voltage

General Notes

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

Electrical Specification Notes

(1) See Figure E7.3 for current rating at specified case temperature.

(2) For more than one full cycle rating, see Figure E7.4.

(3) $T_C = T_J$ for test conditions

(4) See package outlines for lead form configurations. When ordering special lead forming, add type number as suffix to part number.

Electrical Isolation

Electrical Isolation from Leads to Mounting Tab *	
V AC RMS	**TO-220 Isolated**
2500	**Standard**
4000	**Optional ****

* UL Recognized File #E71639

** For 4000 V isolation, use “V” suffix in the part number.

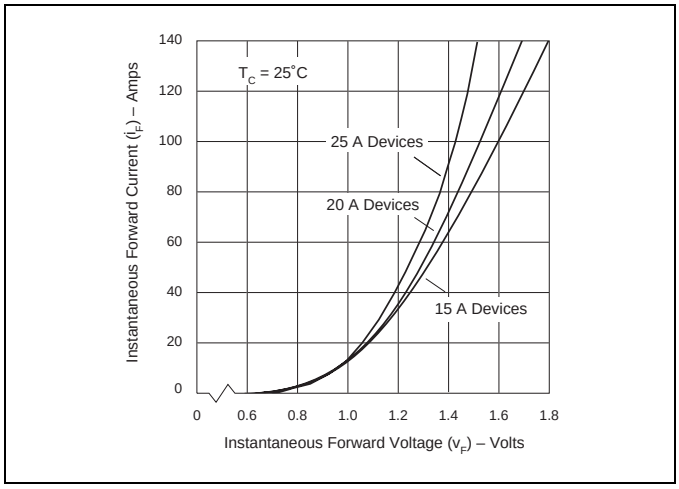


Figure E7.1 Instantaneous Forward Current versus Forward Voltage (Typical)

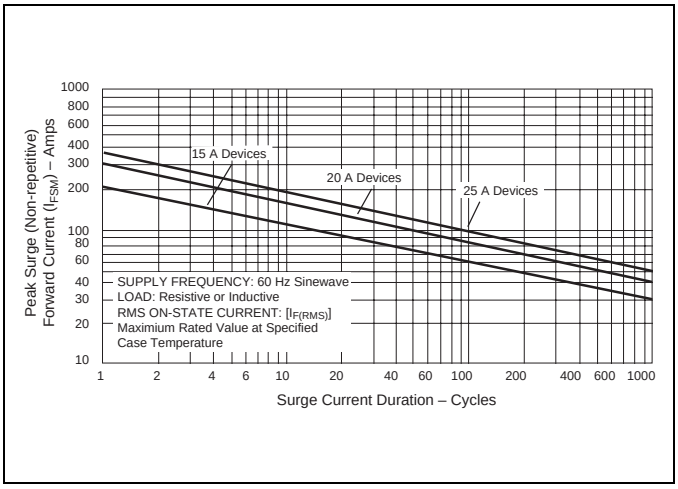


Figure E7.4 Peak Surge Forward Current versus Surge Current Duration

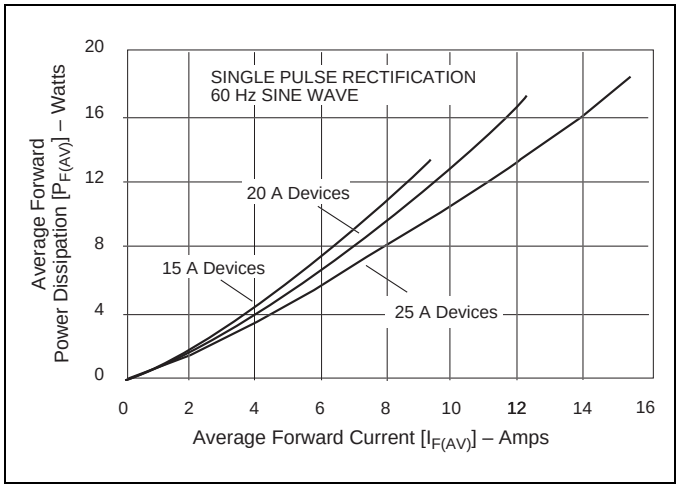


Figure E7.2 Forward Power Dissipation (Typical)

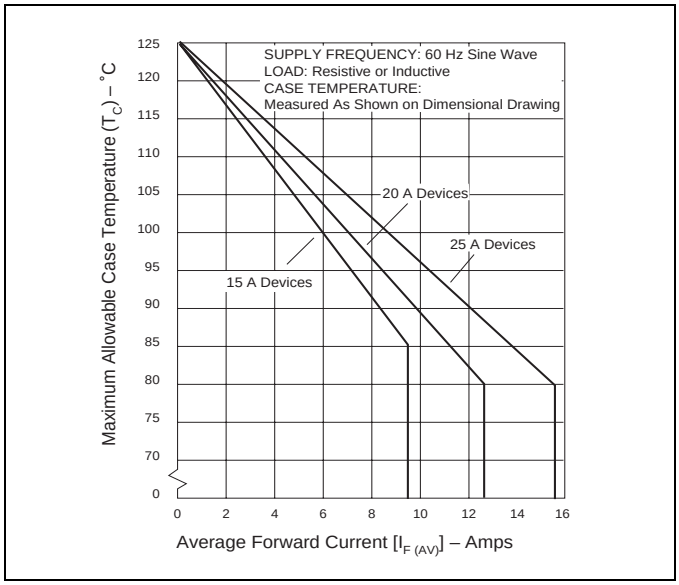


Figure E7.3 Maximum Allowable Case Temperature versus Average Forward Current

Notes