

FFSD0665A

Table 1. ABSOLUTE MAXIMUM RATINGS ($T_C = 25\text{ C}$ unless otherwise noted)

Symbol	Parameter	FFSD0665A	Unit	
V_{RRM}	Peak Repetitive Reverse Voltage	650	V	
E_{AS}	Single Pulse Avalanche Energy (Note 1)	36	mJ	
I_F	Continuous Rectified Forward Current @ $T_C < 159\text{ C}$	6	A	
	Continuous Rectified Forward Current @ $T_C < 135\text{ C}$	11		
$I_{F,Max}$	Non-Repetitive Peak Forward Surge Current	$T_C = 25\text{ C}, 10\ \mu\text{s}$	430	A
		$T_C = 150\text{ C}, 10\ \mu\text{s}$	415	A
$I_{F,SM}$	Non-Repetitive Forward Surge Current	Half-Sine Pulse, $t_p = 8.3\text{ ms}$	42	A
$I_{F,RM}$	Repetitive Forward Surge Current	Half-Sine Pulse, $t_p = 8.3\text{ ms}$	24	A
P_{tot}	Power Dissipation	$T_C = 25\text{ C}$	89	W
		$T_C = 150\text{ C}$	15	W
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +175	C	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. E_{AS} of 36 mJ is based on starting $T_J = 25\text{ C}$, $L = 0.5\text{ mH}$, $I_{AS} = 12\text{ A}$, $V = 50\text{ V}$.

Table 2. THERMAL CHARACTERISTICS

Symbol	Parameter	Rating	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case, Max.	1.7	C/W

Table 3. OPERATING CHARACTERISTICS ($T_C = 25\text{ C}$, unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_F	Forward Voltage	$I_F = 6\text{ A}, T_C = 25\text{ C}$	-	1.50	1.75	V
		$I_F = 6\text{ A}, T_C = 125\text{ C}$	-	1.6	2.0	
		$I_F = 6\text{ A}, T_C = 175\text{ C}$	-	1.72	2.4	
I_R	Reverse Current	$V_R = 650\text{ V}, T_C = 25\text{ C}$	-	-	200	μA
		$V_R = 650\text{ V}, T_C = 125\text{ C}$	-	-	400	
		$V_R = 650\text{ V}, T_C = 175\text{ C}$	-	-	600	
Q_C	Total Capacitive Charge	$V = 400\text{ V}$	-	22		

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TYPICAL CHARACTERISTICS ($T_J = 25\text{ C}$ UNLESS OTHERWISE NOTED)

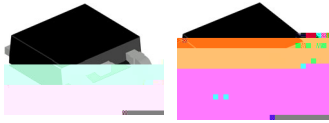


Figure 1. Forward Characteristics

Figure 2. Reverse Characteristics

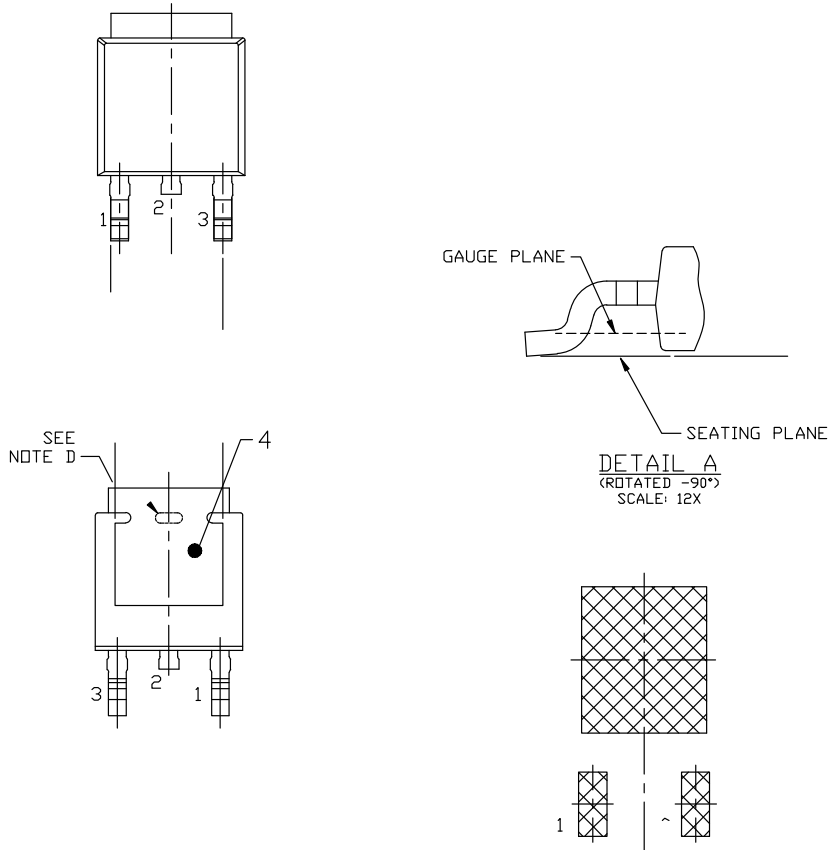
Figure 3. Current Derating

Figure 4. Power Derating



DPAK3 6.10x6.54x2.29, 4.57P
CASE 369AS
ISSUE B

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LAND PATTERN RECOMMENDATION

GENERIC MARKING DIAGRAM*



*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

XXXX = Specific Device Code
 A = Assembly Location
 Y = Year
 WW = Work Week
 ZZ = Assembly Lot Code

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