

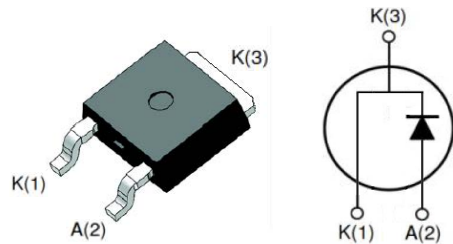
Features

- Ease of Paralleling
- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behaviour
- High temperature operation
- High frequency operation

Key Characteristics		
V_{RRM}	650	V
$I_F, T_c \leq 155^\circ\text{C}$	10	A
Q_c	36	nC

Benefits

- Unipolar rectifier
- Substantially reduced switching losses
- No thermal run-away with parallel devices
- Reduced heat sink requirements



Applications

- Switch Mode Power Supplies (SMPS)
- Boost diodes in PFC or DC/DC stages
- Motor drives
- Solar application, UPS
- Power Switching Circuits

Part No.	Package Type	Marking
ASD1065D	TO-252-2	ASD1065D

Maximum Ratings

Parameter	Symbol	Test Condition	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		650	V
Surge Peak Reverse Voltage	V_{RSM}		650	V
DC Blocking Voltage	V_{DC}		650	V
Continuous Forward Current	I_F	$T_C=25^{\circ}C$	34	A
		$T_C=100^{\circ}C$	23	
		$T_C=155^{\circ}C$	10	
Repetitive Peak Forward Surge Current	I_{FRM}	$T_C=25^{\circ}C$, $t_p=10ms$, Half Sine Wave, $D=0.3$	50	A
Non-repetitive Peak Forward Surge Current	I_{FSM}	$T_C=25^{\circ}C$, $t_p=10ms$, Half Sine Wave	120	A
Power Dissipation	P_{TOT}	$T_C=25^{\circ}C$	125	W
		$T_C=110^{\circ}C$	54	W
Operating Junction	T_j		$-55^{\circ}C$ to $175^{\circ}C$	$^{\circ}C$
Storage Temperature	T_{stg}		$-55^{\circ}C$ to $175^{\circ}C$	$^{\circ}C$
Mounting Torque		M3 Screw	1	Nm
		6-32 Screw	8.8	lbf-in

Thermal Characteristics

Parameter	Symbol	Test Condition	Value	Unit
			Typ.	
Thermal resistance from junction to case	R_{thJC}		1.2	$^{\circ}C/W$



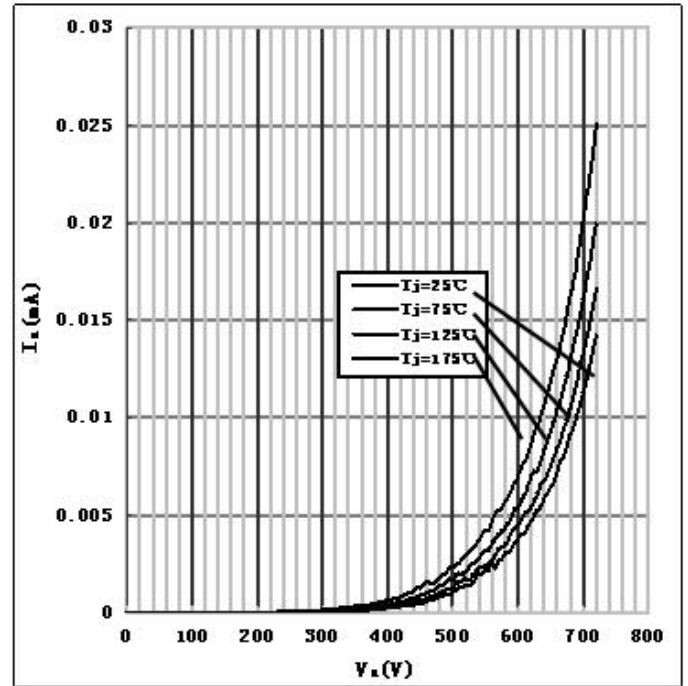
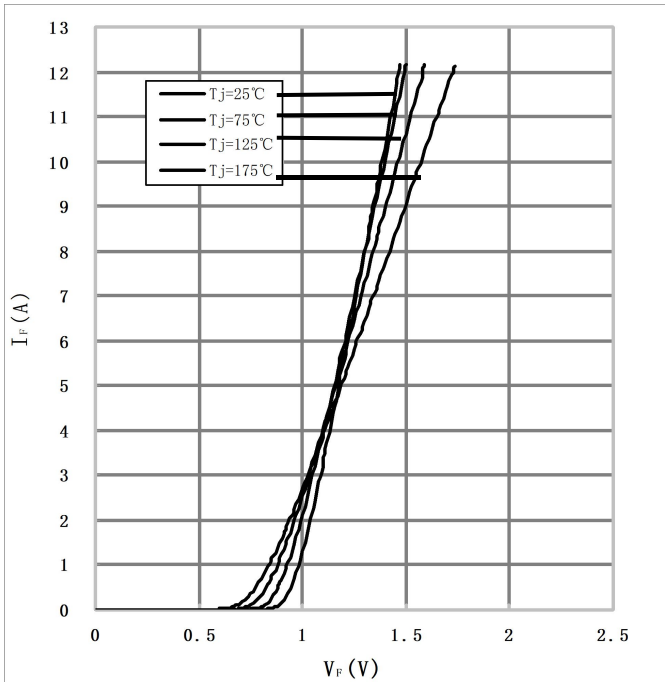
Electrical Characteristics

Parameter	Symbol	Test Conditions	Numerical		Unit
			Typ.	Max.	
Forward Voltage	V _F	I _F =10A, T _j =25°C	1.45	1.7	V
		I _F =10A, T _j =175°C	1.7	2.5	
Reverse Current	I _R	V _R =650V, T _j =25°C	10	50	μA
		V _R =650V, T _j =175°C	20	100	
Total Capacitive Charge	Q _C	V _R =400V, T _j =150°C $Q_C = \int_0^{V_R} C(V)dV$	36	-	nC
Total Capacitance	C	V _R =0V, T _j =25°C, f=1MHZ	690	730	pF
		V _R =200V, T _j =25°C, f=1MHZ	72	75	
		V _R =400V, T _j =25°C, f=1MHZ	71	74	

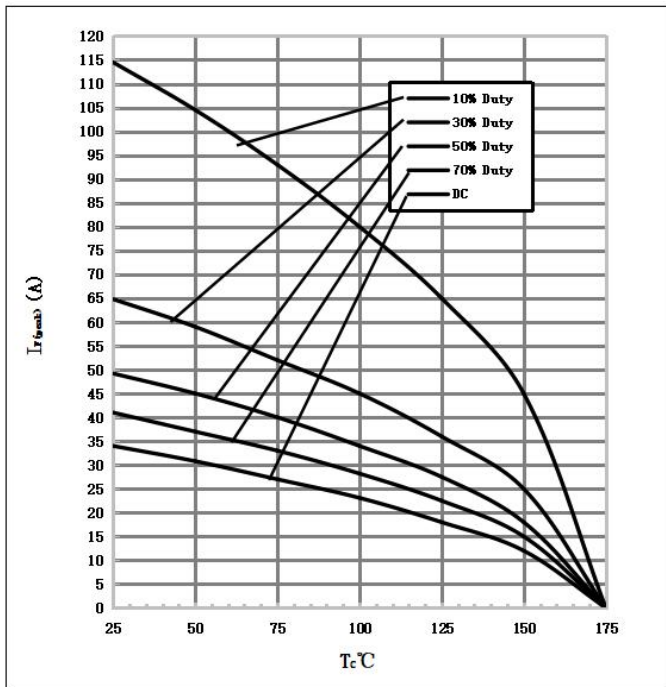
Performance Graphs

1) Forward IV characteristics as a function of T_j :

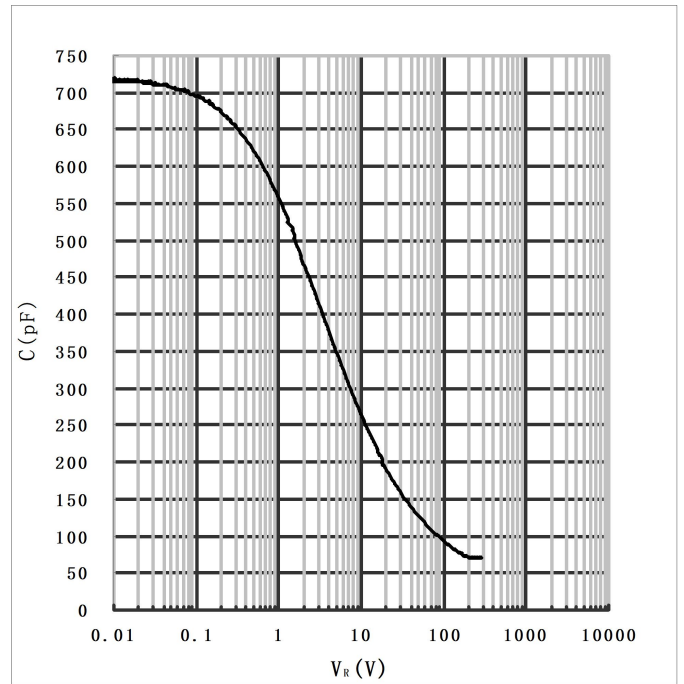
2) Reverse IV characteristics as a function of T_j :



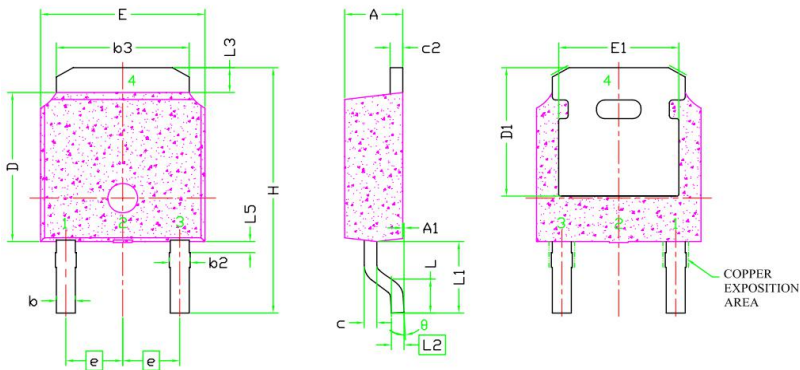
3)Current Derating



4)Capacitance vs. reverse voltage :



Package TO-252-2



SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1	2.743 REF		
L2	0.508 BSC		
L3	0.89	--	1.27
L5	--	--	--
D	6.00	6.10	6.223
H	9.40	10.00	10.40
b	0.64	0.76	0.88
b2	0.77	0.84	1.14
b3	5.21	5.34	5.46
e	2.286 BSC		
A	2.20	2.30	2.38
A1	0	--	0.127
c	0.46	0.50	0.60
c2	0.46	0.50	0.58
D1	5.21	--	--
E1	4.40	--	--
θ	0°	--	10°

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