

MOC8204
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise specified.)

INDIVIDUAL COMPONENT CHARACTERISTICS

Parameter	Test Conditions	Symbol	Min	Typ ⁽¹⁾	Max	Unit
EMITTER						
Input Forward Voltage	($I_F = 10\text{ mA}$)	V_F	—	1.2	15	V
Reverse Leakage Current	($V_R = 6.0\text{ V}$)	I_R	—	—	10	μA
Capacitance	($V = 0, f = 1\text{ MHz}$)	C_J	—	18	—	pF
DETECTOR						
Collector-Emitter Breakdown Voltage	($I_C = 1.0\text{ mA}, R_{BE} = 1\text{ M}\Omega$)	BV_{CEO}	400	—	—	V
Collector-Base Breakdown Voltage	($I_C = 100\text{ }\mu\text{A}$)	BV_{CBO}	400	—	—	V
Emitter-Base Breakdown Voltage	($I_E = 100\text{ }\mu\text{A}$)	BV_{EBO}	7	—	—	V
Collector-Emitter Dark Current	($R_{BE} = 1\text{ M}\Omega, V_{CE} = 300\text{ V}$)	I_{CEO}	—	—	100	nA
$T_A = 25^\circ\text{C}$			—	—	250	μA
$T_A = 100^\circ\text{C}$						

ISOLATION CHARACTERISTICS

Characteristic	Test Conditions	Symbol	Min	Typ ⁽¹⁾	Max	Units
Output Collector Current	($V_{CE} = 10\text{ V}, I_F = 10\text{ mA}, R_{BE} = 1\text{ M}\Omega$)	I_C (CTR) ⁽²⁾	2 (20)	—	—	mA(%)
Collector-Emitter Saturation Voltage	($I_C = 0.5\text{ mA}, I_F = 10\text{ mA}, R_{BE} = 1\text{ M}\Omega$)	$V_{(SAT)}$	—	—	0.4	V
Input-Output Isolation Voltage ⁽³⁾	($I_{I-O} \leq 1\text{ }\mu\text{A}, \text{Time} = 1\text{ min}$)	V_{ISO}	5300	—	—	$V_{AC(RMS)}$
			7300	—	—	$V_{AC(PEAK)}$
Isolation Resistance ⁽³⁾		R_{ISO}	—	10^{11}	—	Ω
Isolation Capacitance ⁽¹⁾		C_{ISO}	—	0.2	—	pf
Turn-On Time	($V_{CC} = 10\text{ V}, I_C = 2\text{ mA}, R_L = 100\Omega$)	t_{ON}	—	5	—	μs
Turn-Off Time		t_{OFF}	—	5	—	

Notes

1. Always design to the specified minimum/maximum electrical limits (where applicable).
2. Current Transfer Ratio (CTR) = $I_C / I_F \times 100\%$.
3. For this test LED pins 1 and 2 are common and phototransistor Pins 4,5 and 6 are common.

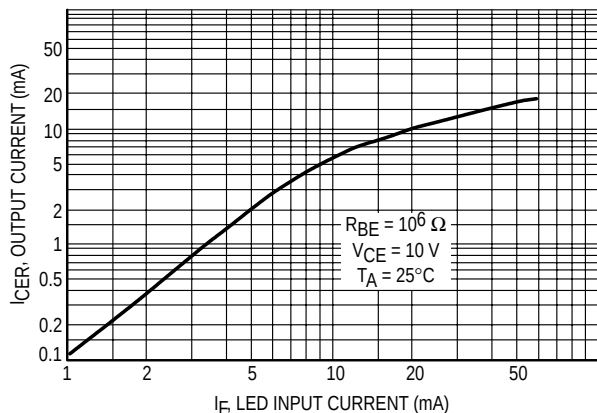


Figure 1. Output Current versus LED Input Current

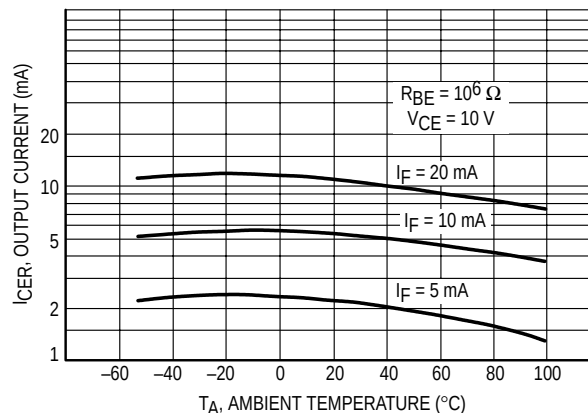


Figure 2. Output Current versus Temperature

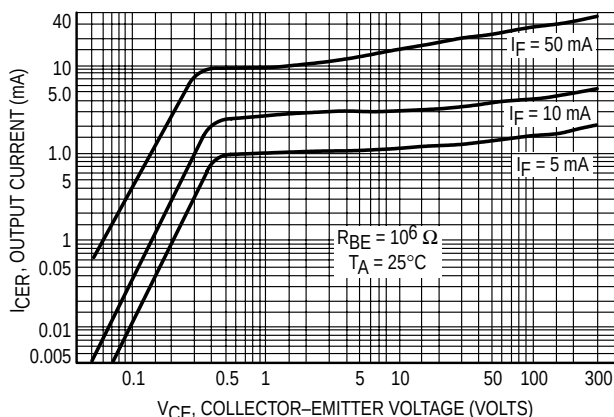


Figure 3. Output Characteristics

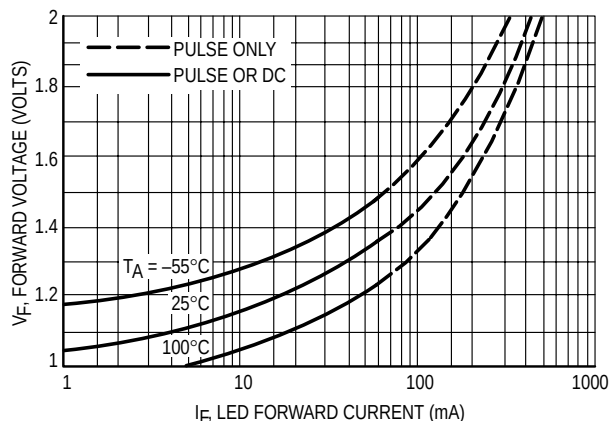


Figure 4. Forward Characteristics

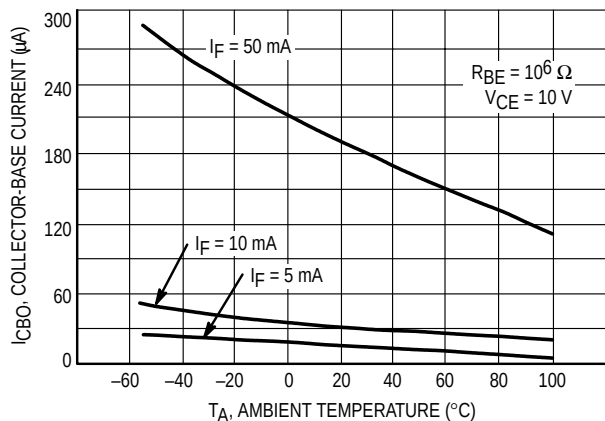


Figure 5. Collector-Base Current versus Temperature

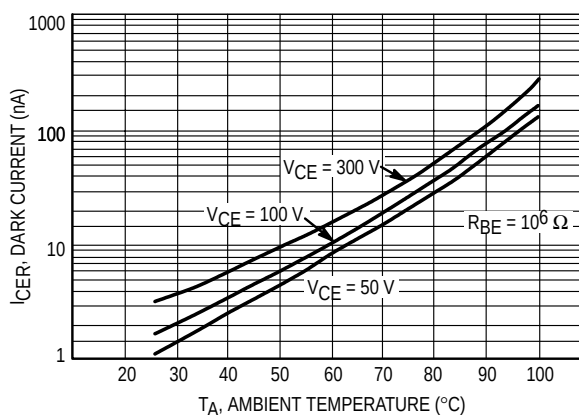
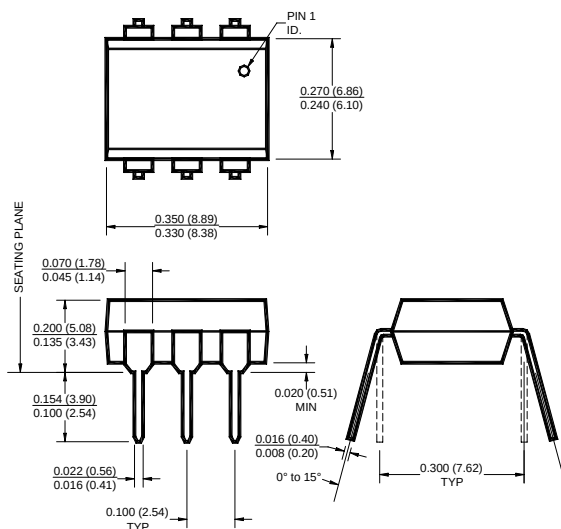
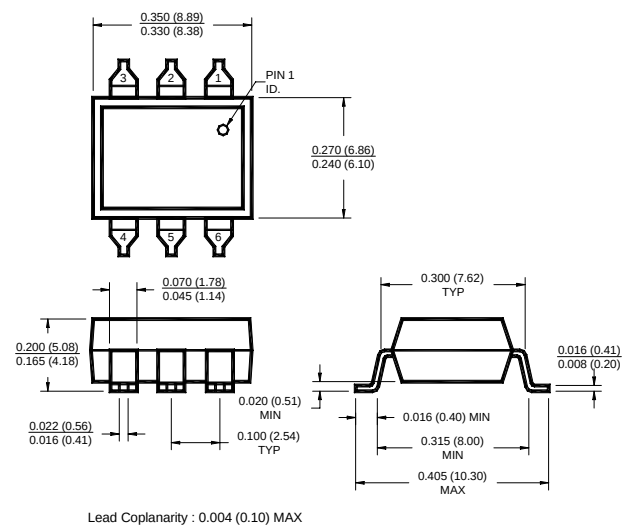


Figure 6. Dark Current versus Temperature

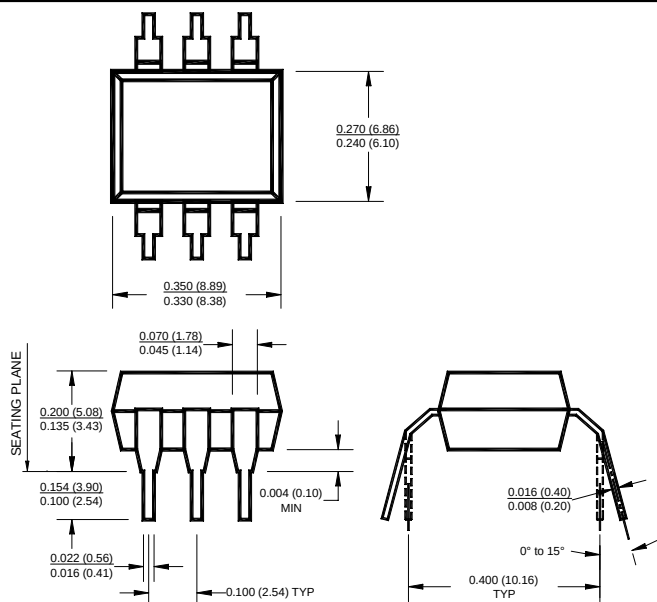
Package Dimensions (Through Hole)



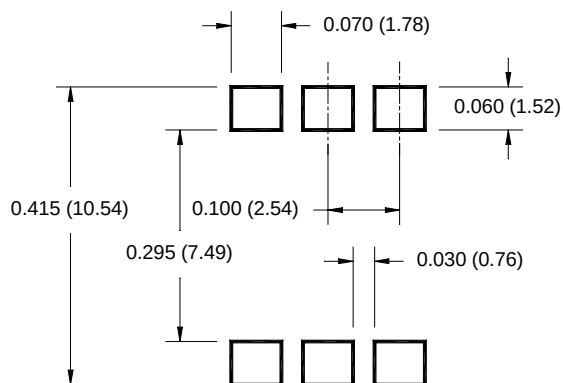
Package Dimensions (Surface Mount)



Package Dimensions (0.4"Lead Spacing)



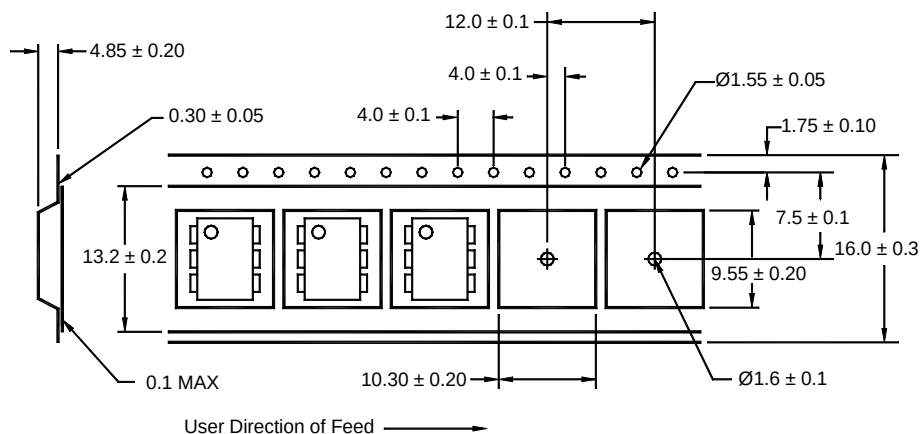
Recommended Pad Layout for Surface Mount Leadform



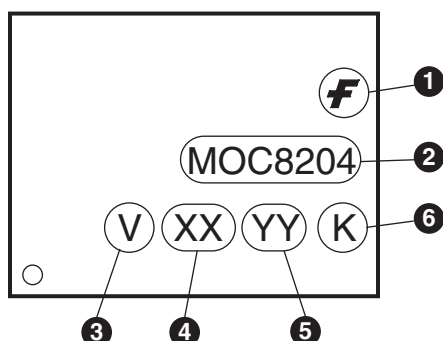
ORDERING INFORMATION

Option	Order Entry Identifier	Description
R2	.R2	Opto Plus Reliability Conditioning
S	.S	Surface Mount Lead Bend
SD	.SD	Surface Mount; Tape and reel
SDL	.SDL	Surface Mount; Tape and reel
W	.W	0.4" Lead Spacing
300	.300	VDE 0884
300W	.300W	VDE 0884, 0.4" Lead Spacing
3S	.3S	VDE 0884, Surface Mount
3SD	.3SD	VDE 0884, Surface Mount, Tape & Reel

QT Carrier Tape Specifications

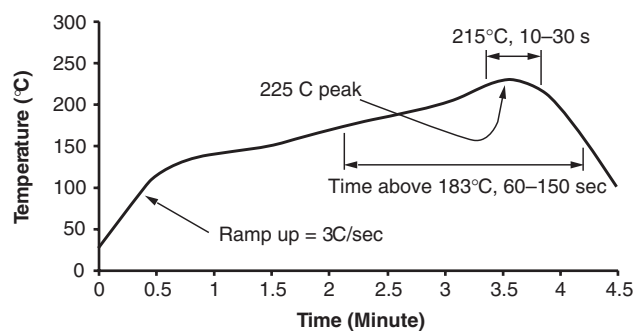


MARKING INFORMATION



Definitions	
1	Fairchild logo
2	Device number
3	VDE mark (Note: Only appears on parts ordered with VDE option – See order entry table)
4	Two digit year code, e.g., '03'
5	Two digit work week ranging from '01' to '53'
6	Assembly package code

Reflow Profile (Black Package, No Suffix)



- Peak reflow temperature: 225°C (package surface temperature)
- Time of temperature higher than 183°C for 60–150 seconds
- One time soldering reflow is recommended

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CoolFET™	FRFET™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	GlobalOptoisolator™	MicroPak™	QFET®	SuperSOT™-8
DOMETM	GTO™	MICROWIRE™	QST™	SyncFET™
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E ² CMOSTM	IC™	MSXPro™	Quiet Series™	TINYOPTO™
EnSigna™	i-Lo™	OCX™	RapidConfigure™	TruTranslation™
FACT™	ImpliedDisconnect™	OCXPro™	RapidConnect™	UHC™
FACT Quiet Series™		OPTOLOGIC®	µSerDes™	UltraFET®
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The Power Franchise®		PACMAN™	SMART START™	
Programmable Active Droop™		POP™	SPM™	

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PRODUCT STATUS DEFINITIONS

Definition of Terms

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Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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